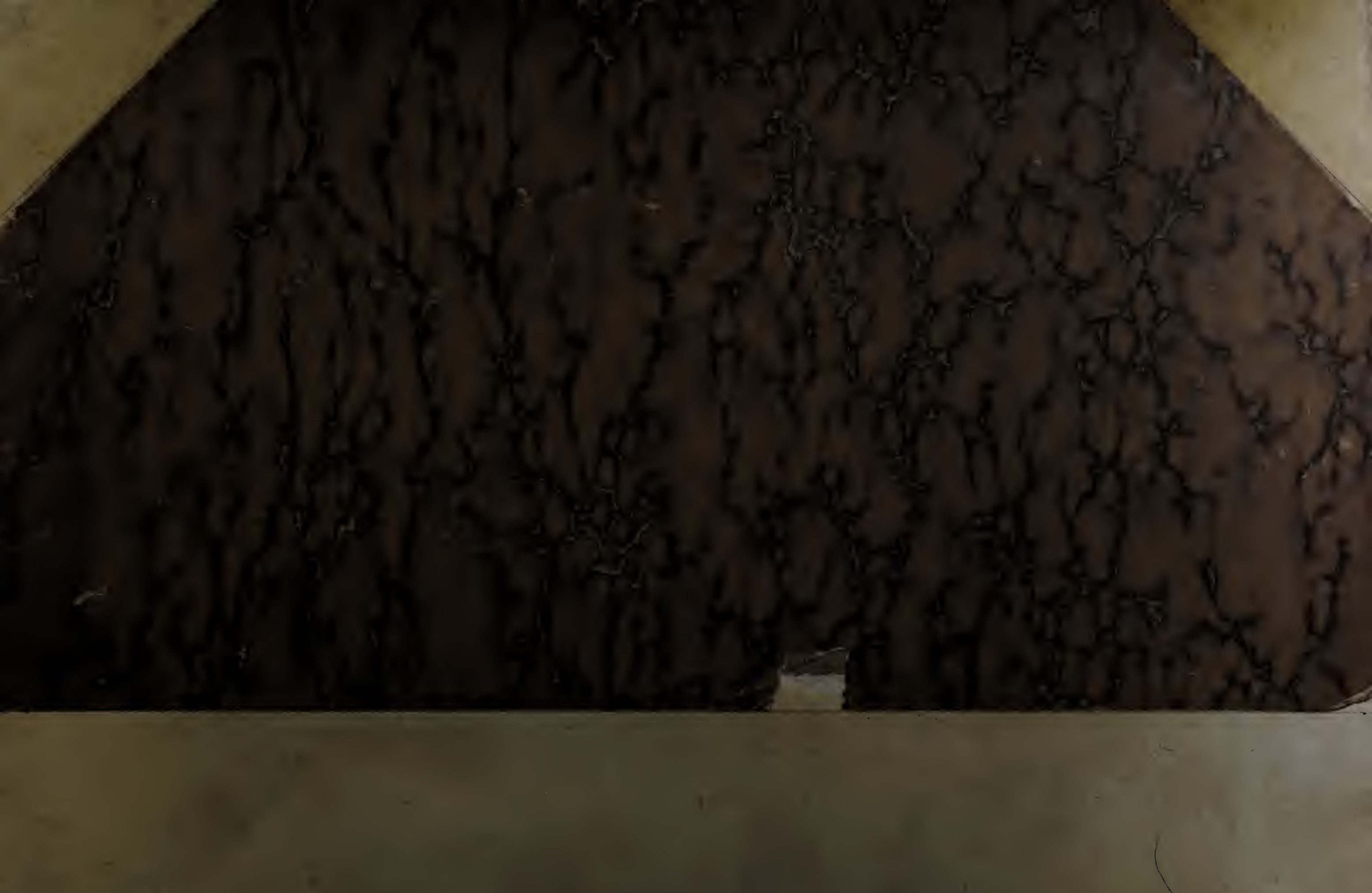

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FOREWORD

On January 1, 1913, the American School of Classical Studies (founded in 1894) became an integral part of the American Academy in Rome. The present volume of papers (Vol. I of the new series) is in reality a continuation of the two volumes of " Supplementary Papers of the American School of Classical Studies ", Vol. I, 1905, Vol. II, 1908.

The frontispiece is the reproduction of a statue, the property of Mrs. John Lowell Gardner of Fenway Court, Boston, which Mrs. Gardner has generously loaned to the American Academy. This statue, discovered in March 1901 on the site of the Gardens of Sallust in Rome, was described by Professor Lucio Mariani in the Bullettino della Commissione Archeologica Comunale di Roma, *XXIX, 1901, p. 71-81 and plate 6.*

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THE REORGANIZATION OF THE ROMAN PRIESTHOODS AT THE BEGINNING OF THE REPUBLIC.

JESSE BENEDICT CARTER.

THE remarkable conservatism of the ancient Roman and the extraordinarily logical character of his mental processes are perhaps our two most valuable assets in the task of the historical reconstruction of the early history of the City of Rome. When that history comes out of the mists of the so-called " legendary period " and when our documents begin, – first in tombs and tufa, later in annals and chronicles – we are conscious at once that, so far as the organization of the state religion is concerned, we are confronted by certain curious anomalies almost in the nature of contradictions, which seem entirely out of place and which distort and change what would otherwise be a perfectly logical system.

The executive control of the organized state religion is in the hands of the College of the Pontiffs. This college consists primarily of the Pontiffs themselves, originally three in number, and, in a broader sense, of the Pontiffs, the Rex Sacrorum, the Flamines and the Vestal Virgins. But there is one peculiar thing about the Pontiffs themselves. They are not organized like other colleges, so that the individual has a certain voice. On the contrary, he exists merely as a counselor to the Chief Pontiff, who has all power and who acts for the entire college. In a word, he is the college. On the other hand, when we come to questions of rank and precedence, we have the anomaly that this great priest, the Chief Pontiff, who has extraordinary powers over all the members of the college, has a rank inferior to four of his entire subordinates. In the most solemn sacrifices of the state his place is usually fifth.

These and various other facts of a similar character prove beyond peradventure that the whole system as we find it in the Republic is a readjustment of previous and

very different conditions, and that it represents a compromise between two radically distinct social organizations. These facts have, of course, been noticed by scholars, and here and there in parentheses and footnotes allusion has been made to the earlier condition of affairs. But, so far as my knowledge goes, no attempt has been made to treat the matter on a large scale [1] and to draw a more or less complete picture of the original condition. It is the intention of this article to produce such a sketch, but before entering upon this task we should understand that such a sketch is at best a hypothetical reconstruction – such as are common in the field of natural science – that it cannot be proved point for point and that the test of it lies in the extent to which it explains later conditions. The probability of its truthfulness increases in direct ratio to the illumination which it casts upon the dark spots of the early Republican organization.

That the Roman Republic was preceded by a Kingdom is beyond the shadow of a doubt, even though the historical events of the Kingdom and the names of the kings themselves are involved in the greatest uncertainty. We also seem to be justified in assuming a twofold division of the Kingdom, a primitive period relatively free from foreign influence and a later period of considerable but not overwhelming Etruscan influence. It is not improbable that the office of the king was very much the same in both periods, but it will be wiser for us to confine our discussion to the Later Kingdom and to leave the pre-Etruscan epoch severely to itself.

The Rex, therefore, of this Later Kingdom, was the father of the people. He was the possessor in himself of the whole " Imperium ", that sacred possession which was forever fought for in all subsequent time and which was later divided under ordinary circumstances into an infinite number of pieces and loaned, not given, to a number of individuals [2], and which had its own sacred seat in the bosom of the senate. He was not merely the head but the incarnation of all the activities of the state in both military and governmental affairs and in that large and important world of the Gods, which, in this connection, is our chief interest.

Religious life and religious consciousness in the days of the Kingdom were in the naturalistic stage where interest was centered in the physical question of fertility and procreation, and where the strongest instinct was that of physical self-preservation. The simple old-fashioned theory of the king as the father of the people and the queen as the mother, a theory so popular fifty years ago, is coming into its own again, after a temporary defeat in a campaign of pseudo-learning. The king was not only the executive head of all the religious activity of the state but he was in addition busied with special

[1] A small sketch was attempted by me, *Actes du IV^e Congrès International d'Histoire des Religions*, Leiden 1913, pp. 141 f.

[2] VARRO, ap. Gell. 13, 12, 6: consules et ceteri qui habent imperium.

priestly functions. These two sides of his religious life, later so carefully distinguished, were doubtless inseparable at first, and the realization of the distinction arose only at the moment when the political king ceased to exist. The deities to whom the King and the Queen were devoted in the solemn sense of special priests were Janus and Juno. It seems strange that the eyes of scholars have been so blinded by the glory that blazed later from the throne of Jupiter and Juno that there have been so few of them able to see that the pair Jupiter-Juno is really Greco-Etruscan and that Juno was originally paired not with Jupiter but with Janus. No clearer instance of this primitive connection of Janus and Juno can be found than their relation to what seems to be in many respects the most primitive of all the social divisions of Rome, namely the *Curiae*. Here the Rex and the Regina are constantly active, and especially in connection with Janus [1], Juno [2], and the kinswoman of Juno, the earth goddess Tellus [3]. The sacrifice on the Kalends of October, a day sacred to Janus, at the Tigillum Sororium was made to Janus Curiatius and Juno Sororia [4]. But the King and the Queen were active also on the occasion of the two great annual festivals of the Curiae. At the first of these festivals, the Fordicidia on April 15th, the Queen (the Virgo Maxima of our historical accounts), accompanied by the Vestals, performed a primitive and curious ceremony. The second of these festivals, the Fornacalia, was to be sure, feriae conceptivae, but it ended always on February 17th, and it is interesting to notice that on this last day (February 17th) it is the King (of course the Curio Maximus of our historical accounts) who presides.

But Janus and Juno were associated not only on October first in connection with the Curiae but also on the Kalends of every other month as well. " Romae quoque Kalendis omnibus, praeter quod pontifex minor in curia Calabra rem divinam Iunoni facit, etiam regina sacrorum, id est regis uxor, porcam vel agnam in regia Iunoni immolat, a qua etiam Ianum Iunonium cognominatum diximus, quod illi deo omnis ingressus, huic deae cuncti Kalendarum dies videntur adscripti " [5]. It is interesting to note here the activity of the Regina and the reference to the Regia. One of the most difficult problems connected with the King is the question of where he lived. The tradition of the residence of the various kings is absolutely without value, except as an added proof of the poverty of Roman imagination [6]. It seems likely that the King lived in the Regia, the House of the King (Domus Regia), and certainly the headquarters of his activity were there. It was

[1] Cp. Ianus Curiatius, Liv. 1, 26, 13; Dion. Hal. 3, 22; Festus, p. 297; Paul., p. 307; and, in general, Carter, *Rel. Life of Ancient Rome*, p. 11.

[2] Dion. Hal. 2, 50, 3; Festus, p. 254, 25; *ep.* 64; cp. Botsford, *Rom. Assemblies*, p. 9; Roscher, *Lex.*, II, 1, 596.

[3] Ovid. *Fasti*, 4, 634; Lyd. *de Mens*, 4, 49; Wissowa, *Rel. u. Kult.*, Ed. 2, p. 192.

[4] Cp. Festus, p. 297; Dion. Hal. 3, 22, and the Fasti Arvalium, *C. I. L.* I².

[5] Macr. *S.* 1, 15, 19.

[6] Cp. Jordan, *Top.* I, 1, 155 ff.

in the Regia on January ninth that the King sacrificed a ram to Janus[1]. It was probably in the Regia that the mysterious ceremonial took place when the Queen with the Vestals came and asked if the King was watching: nam virgines Vestae certa die ibant ad regem Sacrorum et dicebant " vigilasne rex? Vigila! "[2]. But there were also other seats of his activity. Three times a year he performed a sacrifice in the Comitium, namely on February 24th, March 24th and May 24th. It has been suggested that the site of these sacrifices was none other than that group of monuments in the Forum, miscalled " the tomb of Romulus " or the " Lapis Niger "[3]. The so-called bases are in reality an altar for burnt sacrifice, and the stele with its difficult inscription and its reference to a rex and a calator would be the lex arae. The Regifugium of February 24th had, of course, nothing to do with the driving out of the kings, but was probably an ancient festival of purification where the King, taking upon himself the guilt of the people, fled from the altar. The ceremonies of March 24th and May 24th are marked in the Calendar Q R C F, which is an abbreviation for Q(uando) R(ex) C(omitiavit) F(as)[4], where we must understand *comitiavit* to mean " has come into the Comitium after completing the sacrifice "[5]; and the whole abbreviation means that after the king has finished the performance of the sacrifice and appeared in the Comitium, the religious character of the day changes and it ceases to be NEFAS and becomes FAS.

But the activity of the King and the Queen along religious lines was not confined to their functions as special priests of Janus, Juno and Vesta. They had important executive functions as well. The whole organization of the state religion seems to have been dependent upon the King. Even in the earliest period there seem to have existed side by side the two great activities, which were afterwards carried on by the college of the pontiffs and the college of augurs respectively. In the kingly period these two colleges existed merely in the rudimentary form of advisors to the King, who was himself entirely independent in his actions and in no wise bound by his councillors. Similarly the King and the Queen together were responsible for the worship of Vesta, and the Queen was assisted by the Vestal Virgins in the carrying out of the worship at the state hearth, but the Vestals were merely her assistants, and she represented them all and was herself in the power of her husband the King.

Then came the change. In place of this regal organization with its centralization of power, there came the spirit of the Republic, with its suspicion of the one-man imperium. How this all came about we do not know. Possibly, but not likely, the picturesque fiction

[1] The so-called *agonium*. Cp. Ovid. *F.* 1, 318; Lyd. *de Mens.* 4, 1 (and see Reitzenstein, *Poimandres*, p. 294); Varro *L. L.* 6, 12; and in general W. Fowler, *Rom. Fest.* p. 282; Wissowa, *Rel. und Kult.* Ed. 2, p. 103.

[2] Serv. *A.* 10, 228.

[3] Cp. Carter, *A. J. A.* XIII (1909), pp. 19 ff.

[4] Varro *LL.* VI, 31 ff.: dies qui vocatur sic quando rex comitiavit fas, etc.

[5] Festus, p. 259, 4.

of the wicked Tarquin is a reflection of the truth; possibly the change was a gradual one, and the Decemvirate may have been a transition stage from Kingdom to Republic, with the consuls of the pre-Decemvirate period themselves mere fictions. But eventually the reorganization was made, and, so far as we can tell, its main outlines were as follows: Doubtless the first impulse was to do away altogether with the King. The curse upon the office should include the name as well, but here arose a difficulty which was all the more real because it was typically Roman. It was a simple matter to establish the theory that the IMPERIUM belonged to the aristocracy and that it had its seat in the bosom of the Senate, and that the Senate could strip the King of every vestige of it, and loan it out to individuals in small pieces. This could be and was done, with the consequences that we shall see below. But there was one relationship which could in no wise be disturbed: that of the King to Janus. Here it was not even possible to suppose for a moment that any change would be welcome to the god. The whole essence of religious feeling rendered such a consideration sacriligious. On such a matter it was not in the province of the augurs to consult the god. It was unhesitatingly taken for granted as an obvious and self-evident fact that the Rex and the Regina must live on forever both in name and in function so far as their activities as special priests were concerned. The Rex and the Regina must continue to make their sacrifice on the kalends of each month. The Rex must continue to perform the ancient ceremonials in the Comitium on February 24th, March 24th and May 24th. To be sure he might perhaps be called *Rex Sacrorum* from now on [1], but the *Rex* part must remain. It was the necessity of preserving the name that created all the difficulty. There must be still a *rex*; he must be honoured and respected. He must even be given the first place in the hierarchy of priests and the place of honour at banquets [2]. The position must be for life [3], and his person must be sacrosanct [4]. And yet he must not only be stripped of all political power but he must be effectually prevented from ever recovering any of it. He must be the most honored and the least powerful man in the state. He must be forbidden to hold any political office and to exercise any position of command; and with all this was the sugar-sweet casuistical explanation, – as King he had of course the highest office, and hence it would not be fitting that he should have any lower one. It is little wonder that powerful

[1] This was actually in all subsequent time the official form and is the only form found in the inscriptions, cp. *C. I. L.* VI 2123; VI 2124; XIV 2413; and in the Lex Julia Municipalis *C. I. L.* I 206, 62. In familiar language he was called *Rex Sacrificulus,* Liv. 2, 2, 1; 6, 41, 9; Gell. 10, 15, 21; Festus, p. 259; 293; 318. The expression in Liv. 9, 34, 12: *rex sacrificiorum,* is merely individual; and Liv. 40, 42, 8, *de rege sacrifico,* is doubtless to be emended into *de rege sacrific(ul)o.*

[2] Festus, p. 185: ordo sacerdotum aestimatur deorum maximus quisque. Maximus videtur Rex, dein Dialis, post hunc Martialis, quarto loco Quirinalis, quinto Pontifex Maximus. Gell. 10, 15, 21: Super flaminem Dialem in convivio, nisi rex sacrificulus, haut quisquam alius accumbit. Serv. *A.* 2, 2: non enim licebat supra regem Sacrificulum quemquam accumbere.

[3] Dionys. Hal. IV, 74, 4.

[4] Serv. *A.* 8, 646: quia occidi non poterat religione impediente: rex enim etiam sacrorum fuerat.

men did not seek this office. It is easily understandable that the possessor of even a moderate degree of temporal power might desire to refuse this pinnacle of gilded nonentity. There was a famous case of this hesitation in the year B. C. 180[1], when a certain Lucius Cornelius Dolabella, one of the commanders of the fleet (Duumvir navalis), who was destined to protect the Adriatic coast from Ancona southwards, flatly refused to resign his office and accept the position of Rex Sacrorum. Thereupon the Pontifex Maximus fined him, and Dolabella appealed to the assembly of the tribes. The session of the assembly was broken off by the appearance of an unlucky omen. Under the circumstances the Pontiffs hesitated to compel him to accept office, and the second candidate on the list was appointed in his stead. It is little wonder under these conditions that in B. C. 210 the position was actually vacant for more than a year[2]. To add to the solitary grandeur of his life, the Rex Sacrocrum was hedged about by ceremonial. On holidays he was not only forbidden to work but in his presence all others were forbidden to work. There was even a crier to warn men of his approach and to forbid them to work in his sight[3]. And yet he was withal so important that certain events were actually dated by his sacral reign[4]. There was one feature of the grandeur which had belonged to the real king. He was not permitted to live in the " King's House " (domus) Regia. This was a common sense precautionary measure which was doubtless absolutely necessary at the beginning. It arose from that extraordinary sense of the influence of localities which was so characteristic of the ancient Romans and found its expression in the " Genius Loci " and the various Fortuna concepts. The house which had been the King's kept its name, the Regia, the King's house forever, but from now on it was the actual habitation of no one. The Rex Sacrorum had an especial house of his own but it was not the Regia[5].

The Pontifex Maximus, the King's successor in the executive sphere, was not permitted to inhabit the Regia, but was housed instead in the Domus Publica close by[6].

[1] Cp. Liv. 40, 42, 8 ff: de rege sacrifico subficiendo in locum Cn. Corneli Dolabellae contentio inter C. Servilium pontificem maximum fuit et L. Cornelium Dolabellam duumvirum navalem, quem ut inauguraret pontifex magistratu sese abdicare iubebat; recusantique id facere ob eam rem multa duumviro dicta a pontifice, deque ea, cum provocasset, certatum ad populum. Cum plures iam tribus intro vocatae dicto esse audientem pontifici duumvirum iuberent multamque remitti, si magistratu se abdicasset; ultimum de caelo quod comitia turbaret intervenit. religio inde fuit pontificibus inaugurandi Dolabellae. P. Cloelium Siculum inaugurarunt, qui secundo loco nominatus erat.

[2] Liv. 27, 6, 16: M. Marcius Rex Sacrorum mortuus est, et M. Aemilius Papus Maximus curio; neque in eorum locum sacerdotes eo anno suffecti.

[3] Macrob. *S.* I, 16, 9: adfirmabant autem sacerdotes pollui ferias, si indictis conceptisque opus aliquod fieret, praeterea regem sacrorum flaminesque non licebat videre feriis opus fieri, et ideo per praeconem denuntiabant, nequid tale ageretur et praecepti neglegens multabatur.

[4] E. g. Plin. *N. H.* 11, 186: L. Postumio L. f. Albino rege sacrorum post CXXVI Olympiadem, cum rex Pyrrhus ex Italia decessisset, cor in extis haruspices inspicere coeperunt.

[5] Festus, p. 293: (Via) sacra appellanda est a regia ad domum regis sacrificuli.

[6] On the Regia and the Domus Publica, cp. Jordan, *Top.* I, 2, 426; F. M. Nichols, *Archeologia*, vol. 50, pp. 227 ff., and *Journal of the British and American Archaeological Society of Rome*, vol. I, No. 3, 1886-1887, pp. 87 ff. Servius is in error (*A.* 8, 363) when he says: " domus --- in qua pontifex habitat, regia dicitur ".

The introduction of the Pontifex Maximus brings us to the discussion of the second part of the readjustment. Thus far we have discussed the necessity of the preservation of the King in at least a certain shadow of his former greatness, and we have seen how this Rex Sacrorum was hedged about with such restrictions as tended to prevent his ever regaining any of the civil power which the real king had once possessed. This reminiscent King of the Republic had no other functions than those particular acts of worship which the gods, and especially Janus, had a right to receive at his hand. All the other activities of the King were taken from him and divided among a large number of persons. We are of course not concerned here with the civil and military functions but merely with the executive life of the King as exercised along religious lines. As we have seen above, one of the most primitive elements in the King's executive activity was his relation to the *Curiae*. In so far as his acts in this connection had to do with the worship of Janus, the Shadow King continued to perform them, but his function as presiding officer ceased and the Curiae appointed their own head, in the person of a new official, the Curio Maximus. It seems incorrect to speak of the King as having been himself the Curio Maximus; more likely he was here as everywhere simply the Rex without other title, the head of all the Curiae, in his own person the incarnation of them all. But now this part of his task was given to a man occupying a newly created position, the Curio Maximus. The incumbent was at first a Patrician [1], but in 209 a Plebeian was elected for the first time [2].

Venerable as was the connection of the King with the Curiae, the most important of his executive functions were in relation to the religion of the state. Here he was the chief priest, assisted to be sure by a council of priests, but, as we have seen, acting entirely independently of them. This part of the King's activities must be removed from him at once. The council becomes now independent. It takes, as it were, into its own bosom the power which the King had had, but the conservatism of religion immediately asserts itself. They may take over the power, but it was not a case of taking it back for they had not owned it originally, and so, though now they took it for a moment, they could not keep it, and it must be delegated at once to one of their own number, to whom was given the title of Pontifex Maximus. Thus was created the office of Pontifex Maximus, that man in whom were united the principal executive functions of the King.

The royal origin of the Pontifex is clearly seen in the aristocratic tradition attaching

[1] Liv. 3, 7, 6.

[2] Liv. 27, 8, 1-3: Inter maiorum rerum curas comitia maximi curionis, cum in locum M. Aemili sacerdos crearetur, vetus excitaverunt certamen patriciis negantibus C. Mamili Atelli, qui unus ex plebe petebat, habendam rationem esse, quia nemo ante eum nisi ex patribus id sacerdotium habuisset. tribuni appellati ad senatum rem reiecerunt; senatus populi potestatem fecit: ita primus ex plebe creatus maximus curio C. Mamilius Atellus. On the Curio Maximus in general cp. Botsford, *Rom. Assemblies*, p. 10; Kübler in P. W. IV, 1838.

to the office. At first he was not elected by the seventeen Tribes [1] but was chosen by the college itself [2], probably in the very earliest times on the basis of age [3]. He was like the King before him not merely the head of the college; he was himself the college. It was he and not the college who appointed the Rex Sacrorum, the Flamines and the Vestals and possessed even the right of compulsion [4]. He had the right of fining the Rex [5] and the Flamines [6] and of compelling them to resign their office and he possessed the power of life and death in the case of a vestal virgin guilty of incest [7]. He held office for life [8].

But there was another important side to the executive activity of the old King, his functions as the head of the college of augurs. In a fashion similar to the solution achieved by the Pontiffs, the Augurs solved this problem [9].

In our discussion of the Rex, consideration for the Regina has naturally fallen into abeyance. In general she was treated very much as the King was. The name was retained, with the addition of *sacrorum*, and she continued to perform the same priestly functions as she had always done; but her executive work was taken from her. The principle feature of this executive work was her connection with the Vestal Virgins.

[1] The first example of election by the Tribes is in B. C. 212, cp. Liv. 25, 5, 2.

[2] Wissowa, *Rel. und Kult.*, Ed. 2, p. 508, 11, points out that we have no real proof of this, but it has usually and doubtless correctly been taken for granted.

[3] The very name itself, Pontifex MAXIMUS, indicates this, cp. the Vestalis MAXIMA and Ovid's comment (*Fasti*, 4, 639): quae natu maxima virgo est.

[4] As an example of the compulsory appointment of a Flamen Dialis (in order to help in the reformation of a dissipated youth), cp. Liv. 27, 8, 4-6 " et flaminem Dialem invitum inaugurari coegit P. Licinius pontifex Maximus C. Valerium Flaccum - - - - Causam inaugurari coacti flaminis libens reticuissem, ni ex mala fama in bonam vertisset. Ob adulescentiam negligentem luxuriosamque C. Flaccus flamen captus a P. Licinio pontifice maximo erat, L. Flacco fratri germano cognatisque alis ob eadem vitia invisus. Is, ut animum eius cura sacrorum et caerimoniarum cepit, ita repente exuit antiquos mores, ut nemo tota iuventute haberetur prior nec probatior primoribus patrum, suis pariter alienisque esset ".

[5] Liv. 40, 42, 9, the case of Lucius Cornelius Dolabella referred to above. The Pontifex fined him because Dolabella, having been appointed Rex, refused to resign his command in the navy.

[6] In B. C. 189 the Pontifex Maximus P. Licinius engaged in an altercation with the Flamen Quirinalis Q. Fabius Pictor, in which the Pontiff came out victorious, cp. Liv. 37, 51: Priusquam in provincias praetores irent, certamen inter P. Licinium pontificem maximum fuit et Q. Fabium Pictorem flaminem Quirinalem, quale patrum memoria inter L. Metellum et Postumium Albinum fuerat. Consulem illum cum C. Lutatio collega in Siciliam ad classem proficiscentem ad sacra retinuerat Metellus, pontifex maximus; praetorem hunc, ne in Sardiniam proficisceretur, P. Licinius tenuit, et in senatu et ad populum magnis contentionibus certatum. - - - - religio ad postremum vicit.

[7] E. g. Domitian's desire to bury Cornelia alive; cp. Plin. *Ep.* 4, 11, 5 f.: Fremebat enim Domitianus aestuabatque in ingenti invidia destitutus. Nam cum Corneliam, Vestalium maximam, defodere vivam concupisset, ut qui inlustrari saeculum suum eius modi exemplis arbitraretur, pontificis maximi iure seu potius immanitate tyranni, licentia domini, reliquos pontifices non in Regiam sed in Albanam villam convocavit.

[8] Dio Cass. 49, 15, 3; 54, 15, 8; Appian *B. C.* V, 131; Sueton. *Aug.* 31; and cp. Wissowa, *Rel. und Kult.*, Ed. 2, p. 495, 1.

[9] Our data in regard to the Augurs are much more incomplete. There can be little question that the College created one of their number the augur maximus though the actual title happens to occur only in two inscriptions from Numidia, where it represents only a yearly office. But the principle of seniority is characteristic of the Augurs. Cp. the well known words of Cicero, *De Senect.* 64: multa in collegio vostro praeclara sed hoc - - - - - - in primis quod ut quisque aetate antecedit, ita sententiae principatum tenet, neque solum honore antecedentibus sed iis etiam, qui cum imperio sunt, maiores natu augures anteponuntur.

Her place was now filled by the appointment of a Virgo Maxima (the doyenne of the Vestals [1]). Here again conservatism and logic had their perfect work. As the Regina had been legally in the *potestas* of her husband, the Rex, so now in their new relationship the Virgo Maxima is in the *potestas* of the Pontifex Maximus [2].

Thus the religious organization of the Republic stepped forward into the future. Old things had been done away, so far as old things could be done away with; and all things had become new in so far as all things could become new. And when the good citizens rested from their labours, and beheld their work and called it good, they would indeed have been interested, had they been able to look down the centuries, and see what the vicissitudes of these concepts of Rex and Pontifex Maximus were to be, and how they would once again be united in one person, the Pontifex Maximus of a new religion, the " Papa-Re " of new political conditions.

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[1] Cp. Ovid. *Fast.* 4, 639: quae natu maxima virgo est.

[2] The Virgo Maxima is not to be thought of as the daughter, but rather as the wife of the Pontifex Maximus; cp. Wissowa, *Rel. und Kult.*, Ed. 2, p. 509, 5; Jordan, *Tempel der Vesta,* p. 47 ff.; Dragendorff, *Rhein. Mus.* LI, 1896, 281 ff.; Santinelli, *Riv. di Fil.*, XXXII, 1904, 63 f.

THE VATICAN LIVY AND THE SCRIPT OF TOURS.

E. K. RAND AND GEORGE HOWE.

(PLATES 1—14)

IN the year 781 Alcuin was called to France by Charlemagne to assist him in his plans for educational reform. Every one must admit that the English scholar was actively engaged in many of the intellectual interests of the day, but just what was his influence on the development of Caroline hand-writing is a matter much mooted of late. Earlier works on Alcuin tended to assume that he was in a large measure responsible for the perfection of that beautiful script which appearing in French books of the early ninth century was soon to commence a career of conquest over all the other national styles [1]. Menzel, however, in the volume devoted to the famous manuscript of Ada [2] pointed out that Alcuin was over sixty years of age when he assumed charge of the monastery of Tours in 796, and that beset with various worries and ailments doubtless had little time for the minutiae of the copyist's task. The script which he cultivated at Tours, if he cultivated any at all, was his native Insular hand; he could have had little effect, therefore, on the course of French writing in his day. This suggestion was forcibly restated by Traube [3], and since then has gained wide acceptance [4].

[1] For a typical utterance see MONNIER, *Alcuin et Charlemagne*, 1864, p. 43: Pour transcrire les manuscrits, l'abbé de Tours mit en usage le petit caractère romain, plus beau et plus lisible que la pesante écriture des Mérovingiens: c'est ce qu'on appelle l'écriture caroline.

[2] *Die Trierer Adahandschrift*, 1889, p. 4.

[3] *Neues Archiv der Gesellschaft f. ält. deutsche Geschichtskunde* XXVII (1901), p. 281. He concludes: " dass der grosse angelsächsische Gelehrter mit der Entwickelung der Form der Schrift gar nichts to thun hatte ". See also his posthumous *Vorlesungen und Abhandlungen* II (1911), p. 25.

[4] See, e. g., C. J. B. GASKOIN, *Alcuin, his Life and his Works*, 1904, p. 198, note: " There seems to be no valid reason for ascribing to Alcuin any share in the Carolingian reform of hand-writing except in so far as, by his own example or through the manuscripts he brought or sent for from York, he may have recommended the Anglo-Saxon script for imitation ". SANDYS, *A History of Classical Scholarship* I² (1906) 473, cautiously relegates the new theory to a footnote. E. M. THOMPSON, in his recent *Introduction to Greek and Latin Palaeography*, 1912, p. 367, repeats the old-fashioned statement made in his *Handbook of Greek and Latin Palaeography*, 1892, p. 283.

But Rudolph Beer, whose recent death is a deplorable loss to the science of palaeography, proposed in the introduction to Volume I of the *Monumenta Palaeographica Vindobonensia*, the highly probable theory that Alcuin supervised the writing of three important Biblical texts, the evangelary of Godesscalc, done by order of the king between 781 and 783 [1], the evangelary presented by Ada to St. Maximin of Treves, and the golden Psalter of Dagolf offered by Charlemagne to Pope Hadrian I in 795 [2]. The dedicatory verses in all these manuscripts show significant coincidences with Alcuin's poetry, and other evidence connects them with him. They all present substantially the same script, which may be summarily described as an embellished Merovingian. Certain cursive peculiarities, that is, like the double-c form of the open *a* and the ligatures of *s t* and *r e* are not discarded but purposely retained and perfected [3]; this is precisely the principle far more clearly exhibited in the North Italian hand, and, later on, in the beautiful Beneventan script, which grows almost organically out of the cursive [4]. We would adopt, at least as a tentative hypothesis, the opinion of those scholars [5] who regard the manuscript of Ada and the others of this group as products of the *Schola Palatina* at Aix. It were rash to say that Alcuin invented the script of Aix, especially if the evangelary of Godesscalc were begun before his arrival. But finding an attractive kind of writing in existence, he may well have encouraged its development: with that much we may surely accredit a capable organizer like Alcuin. Nor is it inevitable, or even natural, that he should have tried to introduce his native script. Not a few Germans, as Beer pertinently suggests [6], have cheerfully given up what Bismarck considered their *Nationalschrift* [7] for the plainer and more attractive lettering used elsewhere in the Occident. Before Alcuin's arrival, there flourished, for instance, at Corbie, under the Abbot Maurdramnus, a script which anticipated some of the features of the later hand of Tours and which in its simple elegance must have seemed a revelation to one who knew only the heavier beauties of the Insular round style or the spiny eccentricities of the pointed [8]. We can see, then, why Alcuin on coming into close association with the scriptorium of Aix should resolve to improve the writing which he found, rather than replace it by the sort to which he had himself been accustomed.

[1] See STEFFENS, *Lateinische Palaeographie*, sec. ed., 1907, on Pl. 45 b.

[2] For admirable reproductions of this manuscript, see the plates in *Mon. Pal. Vind.* I.

[3] Other peculiarities of this script are given in great detail by BEER, p. 62 ff., and MENZEL, *Ada-Handschrift*, p. 6 ff.

[4] See the admirable chapter in E. A. LOEW, *The Beneventan Script*, 1914, pp. 93 ff.

[5] Besides BEER, p. 61, see STEFFENS on Pl. 45 b, MENZEL, *op. cit.*, p. 9, and BERGER, *Histoire de la Vulgate*, 1893, p. 277. The latter also says that in the dedicatory verses of the manuscript of Ada, " il n'est guère possible de ne pas reconnaître la plume d'Alcuin " (p. 272).

[6] *Op. cit.*, p. 55.

[7] See TRAUBE, *Vorlesungen und Abhandlungen* II (1911), p. 7.

[8] I have studied the Bible of Maurdramnus at Amiens (MSS 6, 7, 11, and 12) and have also examined the photographs taken by the Abbé Paul Liebaert, scriptor at the Vatican Library, whose investigations of the script of Corbie will set the whole subject in a new light. E. K. R.

When Alcuin retired to Tours in 796, he found there, too, as we think we can show, a hand which had been in use for some time, with individual and promising traits. It would have been curious indeed, if after the script of Aix he had proceeded to introduce the insular style at Tours. There is well-nigh certain evidence for the presence of Irish or English scribes at Tours; what their relation to Alcuin was, we will suggest later on [1]. Alcuin had at any rate received a commission from Charlemagne to emend the books of the Bible and presented to him in 801, at the hand of a favorite pupil, Fridugisus, the text thus revised [2]. In what script was the new book written? In the regular hand of Tours, it is natural to suppose. Only, if our supposition is right that Alcuin had helped develop the hand of Aix, he had doubtless by this time effected some improvements in that of Tours. We hear of his daily fights with the rusticity of his scribes [3]; that may have been either for their blunders in copying, or for their failures to apprehend his ideas of calligraphy, or for both. In our opinion, the script of Tours was not introduced later, as Menzel [4] and, less positively, Berger [5] supposed. Rather, Alcuin found there a hand already possessing characteristic and promising traits which he sought to emphasize and systematize.

Alcuin's Bible is represented by a goodly array of manuscripts in what is universally acknowledged the typical hand of Tours [6]. It would seem possible to find in some one of these the original text of Alcuin and the script which he helped to establish, but most recent authorities, until very lately, have declared that there is no really Alcuinian Bible in existence [7]. The most promising candidate for that distinction is the Bible of Bamberg (No. A, 1, 5), unless it be that of Zürich (No. C, 1). Contrasted with the mid-century copies, these two are earlier both in their text [8], their ornamentation, their illustrations [9], and, we may add, their script. A book not yet much investigated which

[1] See below, p. 50 f.

[2] See BERGER, *op. cit.*, p. 189, who treats Alcuin's editorial labors with more consideration than Corssen does (*Ada-Handschrift*, p. 31).

[3] *Epist.* 172 (ed. Dümmler, *Mon. Germ. Hist., Epist.* IV, 285, 21): Ego itaque licet parum proficiens cum Turonica cotidie pugno rusticitate.

[4] *Ada-Handschrift*, p. 5 : Erst später unter Alcuin's Nachfolgern in der Abtei, unter Fridugisus und Adelard, bildete sich dort eine Schrift aus, die man als charakteristische Schrift von Tours bezeichnen kann.

[5] *Op. cit.*, p. 246 : Adalbald a probablement inventé la semi-onciale carolingienne, et il l'a certainement menée à sa perfection.

[6] Delisle's famous publication, *Mémoire sur l'école calligraphique de Tours au IX^e Siècle*, Paris, 1885 (in *Mémoires de l'Académie des Inscriptions* XXXII), is still the best comprehensive work on the subject. He made several additions to his list in *Journal des Savants*, 1902, pp. 472 ff. Many others may yet be made, while the history of the script is still *terra incognita*. One of Traube's many projects, which were cut short by his untimely death, was a study of the semi-uncial, both the earlier and the later varieties, particularly that of Tours. I would express here my indebtedness to Dr. Paul Lehmann of the University of Munich, who generously placed at my disposal Traube's list of the manuscripts of Tours and allowed me to examine his photographs of them. E. K. R.

[7] See, e. g., CORSSEN, *op. cit.*, p. 35 ff., BEISSEL, *Geschichte der Evangelienbücher*, 1906, p. 183.

[8] BERGER, *op. cit.*, p. 206 ff.

[9] JANITSCHEK, *Ada-Handschrift*, p. 75 f. Speaking of the Grandval Bible, he says: Wenn die Textkritik keine grössere Textspanne zwischen dem Entstehen jener Bibel und der Züricher Alcuinbibel zu erkennen vermag, so kann die Kunstgeschichte doch nicht anders als sie durch einen Zeitraum von zwei bis drei Jahrzehnten von einander trennen.

may rival these in antiquity is the Berne Bible (No. 3 and 4) [1]. The script of this book (see Pl. 1) and that in the earlier part of the Bamberg Bible [2] (see Pl. 2) represents more nearly than any other the model which we believe Alcuin to have set for his scribes. In brief, as contrasted with the hand of Aix, the principle is to distinguish carefully the different types of letters, to perfect the semi-uncial, and to banish all cursive peculiarities from the minuscule. These features are, in general, characteristic also of the mid-century books, but the difference between the simpler lettering of the Bamberg Bible and the gracefully ornate style of the Bamberg Boethius, written not before 832 and perhaps not before 843, is obvious in the admirable reproductions of Chroust [3]. Still nearer perfection, of an almost unearthly beauty, is the Evangelary of Lothaire, written between 843 and 855 [4]. On the same plane of excellence is the Bible that Count Vivian, abbot of Tours from 845 to 851, presented to Charles the Bald. Some time must be allowed for a development like this. The " perfected " style, if so we may call it, came in before the middle of the century, for it is quite as conspicuous in the Quedlinburg manuscript of Sulpicius Severus, *Vita Sancti Martini*, written by Adalbaldus, as his own signature declares, for Fridugisus, abbot of Tours, that is, between 804 and 834 [5]. But we can reach back further still. Adalbaldus, as Berger recognized, had an earlier and a later style. The former, represented by Paris MS Lat. 17227 [6], belongs, judging by its text, with the earlier group of Bibles headed by those of Bamberg and Zürich; it exhibits a rather crude sort of decoration in the initials and certain archaic traits in the script, which bespeak a date anterior to the Bibles of Bamberg and Zürich and Berne. The embellished character of the writing, however, obvious in the uncials on fol. 66, suggests the mid-century books. Without giving further evidence here, we are inclined to date the book after the three Bibles, or at least not before them. It of course preceded the later manner of Adalbaldus, which

[1] See BERGER, *op. cit.*, pp. 208 f.

[2] Illustrated in CHROUST, *Monumenta Palaeographica*, Series I, vol. III (1906), Lief. XVIII, 2, Pl. 2-4.

[3] Besides the preceding, see *op. cit.*, Pl. 5, and for the Boethius, Pl. 8 and 9. We cannot agree, however, with Chroust that the script shows " keine merkliche Weiterentwickelung " (see remarks on Pl. 8) beyond that of the Alcuin Bible. He recognizes a greater richness in the ornamentation in the Boethius manuscript.

[4] See BERGER, *op. cit.*, pp. 250 ff., and for reproductions, see DELISLE, *Album Paléographique*, Pl. 22, and E. M. THOMPSON, *Introd. to Greek and Latin Palaeography*, 1912, p. 414.

[5] See the reproductions in DELISLE, *op. cit.* See also BERGER, *op. cit.*, p. 244. The years 804-834 are the outer limits for the abbacy of Fridugisus. 834 is plausibly computed, not absolutely known, as the date of his death, and he may have succeeded Alcuin not immediately but after the brief regime of Gulfardus II. See *Gallia Christiana*, XIV (1856), 163 f.

[6] BERGER, *op. cit.*, pp. 243 f., 248. DELISLE, *Journal des Savants* (1912), p. 473, doubts whether the Adalbaldus who designates himself as the scribe of this book is the same as the writer of the Quedlinburg manuscript. Though there is an earlier Adalbaldus (see below p. 33, Berger seems to me right in assuming two manners for one and same Adalbaldus. I have seen this manuscript and the Bamberg Bible as well as many other books of the School of Tours, and hope at a later time to treat the whole subject in greater detail. In an article written conjointly with my colleague Professor Howard, an attempt will be made to place the Codex Memmianus of Suetonius in the same general period as the Bamberg Bible. E. K. R.

was fully developed at least as early as 834. A positive utterance on this matter were rash at the present moment, and had better await the investigations of the text of the Vulgate which are being pursued with all zeal and a most comprehensive plan by the Benedictine Commission of Revision. His Eminence Cardinal Gasquet, who is in charge of the undertaking, kindly informs us that of the manuscripts of Alcuin's Bible thus far collated and studied at St. Anselmo the book of Zürich has by all odds the most satisfactory text. The evidence at our disposal prompts us to push the date of that and of the Bamberg Bible tolerably far back. Indeed we would take as our starting point the opinions of Chroust [1], Prou [2], Steffens [3], and Johann Fischer [4], the careful custodian of the Bamberg manuscript, who has known it long and intimately. These authorities believe that the writing was done under Alcuin, or only shortly after his demise; in either case it is typical of the style which he helped to establish.

The manuscript of Livy in the Vatican library (Reginensis 762) [5], though worthless for the text, is most interesting palaeographically, and has already been the subject of several articles. It came to the Vatican with the books of Queen Christiana of Sweden, and had formerly belonged to Alexander Petau [6]; the suspicion is legitimate that its ultimate provenience was some monastery in the neighborhood of Fleury [7]. The first modern editor to refer to this manuscript was J. F. Gronov, who knew, it would seem [8], that it was copied from the oldest and best source for the third decade of Livy, the uncial manuscript formerly belonging to Claude Dupuy and now in the Bibliothèque Nationale (Paris 5730) [9]. Wölfflin [10] gave further evidence that the Reginensis is without authority for the text and called attention to the interesting fact that various signatures of the scribes appear at the end of gatherings and elsewhere. Chatelain [11] proved con-

[1] *Op. cit.*, on Lief. XVIII, 2, Pl. 2: " Demnach mag wohl auf unmittelbare Veranlassung Alcuins und somit noch vor 804 diese HS wenigstens begonnen worden sein ".

[2] *Manuel de Paléographie*, 1910, p. 179.

[3] Plates 46 and 47 are " aus einem Kodex (the Zürich Bible), den Alcuin, der bekannte Freund Karls d. Gr., Abt von St. Martin in Tours († 804), schreiben liess ".

[4] Expressed in a private letter.

[5] The writers of this paper studied the Vatican Livy while members of the School of Classical Studies of the American Academy in Rome during the year 1912-1913. We were cordially assisted in every way by the officers in charge of the Vatican Library, our special thanks being due to Father F. Ehrle, Prefect of the Library, and to the Abbé Paul Liebaert. From the time of its foundation the American School of Classical Studies in Rome has incurred a large debt of gratitude to the Vatican Library for its constant hospitality and coöperation.

[6] See J. F. Gronov near the end of the preface to his edition of Livy, Amsterdam, Elzevir, 1665: Alexander Petavius Pauli F. Claudio Sarravio parario duos, unum pervetustum (= Reginensis 762) et isti primigenio (= Puteanus) fideliter, ut plurimum, adhaerentem, aut sic ab eo deflectentem, ut causa appareat (sc. praebuit).

[7] See DELISLE, *Cabinet des Manuscrits* II (1874), 364 ff.

[8] See note 6 above.

[9] On the Puteanus, see DELISLE, *op. cit.*, II, 135, III, 207-208, and CHATELAIN, *Paléographie des classiques Latins*, 9me livraison, 1895, Pl. CXVI and description (p. 7) with the bibliography there given. In *Revue de Philologie* XIV (1890), pp. 83 ff., Chatelain gives the first words of each gathering in the manuscript.

[10] " Eine unbenutzte Handschrift des Livius aus dem neunten Jahrhundert " in *Philologus* XXXIII (1874), 186-189.

[11] " Le Reginensis 762 de Tite Live " in *Revue de Philologie*, *op. cit.*, pp. 29-85.

clusively, what is ordinarily a most difficult matter to prove, that the manuscript is a direct copy of the earlier source. He showed that the scribes whose signatures appear in the Reginensis were given definite and in most cases equal assignments, that the sections thus constituted correspond, even to the syllable, with complete gatherings of the Puteanus, and that the scribes did not always finish their sections neatly, now contracting their writing, now spreading it, to suit the remaining space. The conclusion is irresistible that nearly equal sections of the Puteanus were distributed among the writers for simultaneous and rapid copying. Now the Puteanus was anciently in the possession of the monastery of Corbie [1]. Chatelain thought that the copy might have been made either there or in some scriptorium to which the book had been loaned. Traube [2] at once pointed out that the names of seven of the eight scribes appear in the lists of the monks of St. Martin's at Tours in the *Libri Confraternitatum Sancti Galli* [3]. He therefore claimed the book for Tours, and seeing that the lists are headed by the name Fridugisus [4] not unnaturally assumed 804 and 834 as the limits within which the writing was done. Shipley, who devoted a careful study to the nature of copyists' blunders as revealed in this most instructive example [5], accepted Traube's views as to the date, and regarded the script as " one of the best examples of the calligraphy of Tours " [6].

So far, however, from representing the developed style of Tours, the script of this volume seems to have no place in the line of development which we have traced from the Bamberg Bible to the books of the mid-century. Traube, in fact [7], saw nothing characteristic of Tours in the script, and declared that the book might have been written in any other French monastery of the period. The manuscript abounds in crude and antiquated forms which are not to be found in the Bamberg Book. If the latter was a product of the scriptorium of Alcuin, then a distinct recrudescence of the primitive had set in when Fridugisus assumed control. Such a sudden and radical step in the wrong direction may not be hastily ascribed to a man specially trusted by Alcuin [8]. Such catastrophes occur,

[1] DELISLE, *op. cit.*, II, 135, III, 208.

[2] *Sitzungsberichte der bayerischen Akademie* 1891, 425-427. Accepted by Chatelain, *Paléographie des classiques Latins,* 9me livraison (1895) in his description (p. 7) of Pl. CXVII.

[3] Edited by Piper, 1884, in the *Monumenta Germaniae Historica*. One list is given on pp. 13 f., the other on pp. 77 f. There seems to be no evidence for Traube's statement that the second list is copied from the first. Rather, they are independent copies of the document sent from Tours. For instance, the name Theodegrimus is more nearly given by Theotcrim in the second list than by Teutcrimus in the first. See below, p. 45. The second list omits one of the names in the first list (Gauzhuius, No. 188), and adds one, Isinbaldus, in the second place above Gauzhuius. The two scribes in copying the same original make independent omissions.

[4] Spelled Fridegisus in the first list and Fridegis in the second.

[5] *Certain Sources of Corruption in Latin Manuscripts* in the *American Journal of Archaeology,* VII (1903), pp. 13-25, 157-197, 405-428.

[6] *Op. cit.*, p. 11.

[7] *Op. cit.*, p. 427.

[8] Per hunc carissimum filium nostrum vobisque (= Charlemagne) fidelem famulum. Epist. 205 (*Monumenta Alcuiniana,* p. 698 in *Bibliotheca Rerum Germanicarum*, ed. Jaffé, vol. VI (1873).

but we must explain the facts more reasonably if we can. The conclusion forced upon us more and more by a somewhat lengthy study of the manuscript is that its script is early, and that if the Bamberg Bible was done under Alcuin, then the Livy must have appeared before the coming of Alcuin to Tours. One might suppose that the Livy, as the external testimony apparently indicates, was done under Fridugisus, perhaps soon after 804, while the series of which the Bamberg Bible was the first member started, say, a decade later. Developments succeed quickly in an age of invention; there would be time enough before 834, it may be admitted, for both the earlier and the later manner of Adalbaldus. But one bit of evidence stands in the way of such a supposition; it is found, curiously, in the supposed external testimony for dating the manuscript in the abbacy of Fridugisus.

It is clear that the list of monks in question was copied while Fridugisus was abbot. Moreover, it was originally made up, we should infer, in the order in which the newcomers joined the monastery. Such is the implication of Chapter LXIII of the Regula Benedicti [1], though the constitution of St. Martin's in the early ninth century was somewhat uncertain [2]. It may be, further, that the names at the head of the list are those of officers of the monastery who might well be of different ages. According to the Regula Benedicti [3], every ten monks in a larger institution were in charge of a decanus, and though at Tours there seems to have been but one decanus [4], a functionary of very high rank, there were other officers in plenty. The documents of St. Martin's [5] mention, besides abbot and dean, *subdecanus, praepositus, magister scholae* (*primicerius* and *secundicerius*), *archiclavis* or *thesaurarius, cantor, praecentor, subcentor,* and others. The names of such officers might have followed immediately that of the abbot in the list. But as the Rule clearly subjects both age and rank (dignitas) [6] to seniority, this statement may well refer not merely to the social standing of the monk before entering the monastery but to the official position thereafter. It seems safer to conclude that the names following that of the abbot are strictly in the order of seniority. On the death of a monk, his name would be either starred or crossed or striken from the records. Lists copied for the *Confraternitates* sometimes include and designate the dead, sometimes register them separately, and sometimes, as in the present case, omit mention of them. It is further

[1] Ordines suos in monasterio ita conservent, ut conversionis tempus, ut vitae meritum discernit utque abbas constituerit..... Ergo excepto hos quos, ut diximus, altiori consilio abbas praetulerit vel degradaverit certis ex causis, reliqui omnes ut convertuntur ita sint, ut verbi gratia qui secunda hora diei venerit, in monasterio iuniorem se noverit illius esse qui prima hora venit diei, cuiuslibet aetatis aut dignitatis sit.

[2] See below, p. 27.

[3] See Chap. 21 and also M. HEIMBUCHER, *Die Orden und Kongregationen der Katholischen Kirche,* 1896, I, 102.

[4] See MABILLE, *La Pancarte Noire de Tours,* 1866, pp. 29 ff., and *Gallia Christiana,* XIV, 155. When, from Hugh Capet on, the Abbots of Tours were likewise Kings of France, the dean was the governing officer in the monastery.

[5] See MABILLE, *op. cit.,* index.

[6] See note 1 above.

true that though seniority overrules age in determining the order of the monks, the two would generally coincide. In the St. Gall list, therefore, the order of names is roughly the order of age as well.

Now Traube noticed [1] that the names of the scribes of the Livy (except one who is not mentioned at all) are to be found in the same part of the list, comprising numbers 42 through 77 [2]. There are in all 219 names [3], including that of the abbot. It were rash to attempt an exact calculation of the ages of the monks, but it is clear at least that at the time when the list was drawn up, our scribes were advanced in years. In the list of 219, numbers 42 to 77 come well toward the top. Fredeg(audus) (No. 77) and Nauto (No. 76), though the youngest of the group, were among the seniors of the monastery. A bit older were Landemarus (No. 63) and Theodegrimus (No. 65), while the associates of Aldo (No. 49), Ansoaldus (No. 43) and Gyslarus (No. 42), took precedence of all but the very oldest of the monks of St. Martin's. The copying of the Livy was an important task which called for skill, speed, and, *ceteris paribus*, youth. Aldo, Ansoaldus, and very possibly Gyslarus did full assignments in the task of copying [4]. Their script betrays none of the signs of age. At the time, however, when the list was made, they may well have become *emeriti*.

This conjecture is further borne out by the omission from the list of the name of the scribe Theogrimnus, whose signature appears in the manuscript. Shipley declares [5], with proper caution, that the two somewhat similar names, Theogrimnus and Theodegrimus, are merely variants of one and the same name. But while a scribal error is possible in the draft made at St. Gall of the original list sent from Tours, it is highly improbable that the name of one scribe should be differently spelled in different parts of the very manuscript which he helped to copy. We shall also try to show from an examination of the several hands in the manuscript [6] that the two names represent two separate persons and that both were engaged in the task of copying. Why, then, are not both given in the list of St. Gall? Obviously because at that time one of the scribes had either died or withdrawn from the monastery of Tours. The case is the same with other names, possibly of correctors [7], that appear in the manuscript. There are six of them - Waleramnus, Ragennardus, Hedelfredus, Bavo, Teutlaicus, Ivinus. Of these, Wa-

[1] *Op. cit.*, p. 426.

[2] Traube's only inference from this fact was (p. 427): " Es ist also eine bestimmte Klasse der Mönche, die in Tours zum Schreibendienst herangezogen wurde ".

[3] The first list contains 217 names, omitting Isinbaldus (see above, p. 24, n. 3) and putting on the same line, 28 of column 2, the names *Miro Moysen*, which are given separately in the second list. The second list has 218 names, omitting that of Gauzhuius. We shall follow the order in the original list of 219 names in citing the numbers of the different scribes.

[4] See below, Table I, pp. 52 ff.

[5] *Op. cit.*, p. 12. Shipley further suggests that Theodegrimus " after finishing his own portion completed that of Nauto, using a different abbreviation in his signature ". But the signatures are not by the scribes themselves. See below, p. 37. CHATELAIN, *Rev. de Phil., op. cit.*, p. 81, identifies the two without hesitation.

[6] See below, pp. 44 ff.

[7] See below, p. 39.

leramnus and Ragennardus appear in the list, if they are indentical with Waldramnus (Walthram) (No. 47) and Raganardus (No. 71) [1]; as we should expect, their names are in the same column as those of the scribes. The other four were deceased or had withdrawn at the time the list was prepared.

The argument thus far warrants us in dating the manuscript before the list copied in St. Gall was drawn up. The scribes of the Livy were among the older members of the monastery and some of their original number had passed away. Even supposing that the list was prepared at a date nearer 834 than 804, the period when the scribes were active would belong distinctly nearer to 804, if not before this time. We may now examine certain data that bear on the date of the list.

Piper argued that as the monastery was secularized by the substitution of canons for monks in the year 818, the privilege of *confraternitas* with St. Gall must have been granted some time before. Unfortunately, as Traube pointed out [2], we cannot be sure of this date. Secularization at St. Martin's came gradually and was well under way in Alcuin's time. Charlemagne in a severe letter of reprimand to Alcuin [3] declares that the institution bore no enviable reputation for strict living, and that its inmates, by their own confession, were hard to classify. " Aliquando monachos, aliquando canonicos, aliquando neutrum vos esse dicebatis ". On the other hand, St. Martin's retained much of its monastic character even after the formal act of secularization, whenever that occurred; it was still governed by an abbot. Whatever its exact status, its scriptorium produced beautiful books, a fact that might have secured it *confraternitas* with St. Gall at any time during the abbacy of Fridugisus.

But a surer indication of date is at hand. On June 1, 818, Hagano and Adiutor, two brothers and canons of St. Martin's, made their will [4]. They were advanced in years, we might infer. They were evidently of noble birth and well-to-do, for they bequeathed extensive possessions to the monastery. Hagano, as the elder, signs the will first, followed by Adiutor. Names of other beneficiaries are stated, none of them monastics, apparently, and none of them in the list of St. Gall. The notary who wrote the will, Genfredus [5], is not on the list and need not have belonged to St. Martin's. Adiutor is No. 11 in the list, but the name of Hagano does not appear. It follows that the list was drawn up after the death of Hagano and, of course, after the date of the will, June 1, 818. The place of Adiutor on the list declares him one of the very oldest of the inmates, as is natural under the circumstances.

[1] On these men, see below, p. 31 f.

[2] *Op. cit.*, p. 426.

[3] *Recueil des Historiens des Gaules et de la France*, V, 628.

[4] MABILLE, *op. cit.*, No. 36 (XXXVI); MARTÈNE, *Thesaurus Anecdotorum* I, 20.

[5] MABILLE, *op. cit.*, Index s. v.

If the above evidence dates the list after June 1, 818, another document induces us to place it as near as possible to that date. In August, 841, Amalricus, *magister scholae* at St. Martin's, made his will [1], endowing the monastery with certain estates, and the abbot Adalardus combining them with others, declared that the total revenue should be appropriated for the *magistri scholae*, who were henceforth to teach without compensation from their pupils. The deed mentions Milo and Guichardus, besides Amalricus, as masters. The latter, we may again infer, was fairly advanced in years. The name occurs twice in the list, at Nos. 175 and 212. If we suppose that No. 175 was thirty years old at the date of the list and fifty or more now, the list must have been drawn up as early as 820 [2]. If we suppose, on the other hand, that the list was drawn up at the end of the abbacy of Fridugisus, say 832, Amalricus would hardly be forty years old at the date of the will, a possible age, of course, yet less appropriate. We know something of the career of Amalricus from other sources. He was in charge of the library of St. Martin's at the time when Lupus Servatus begged Orsmorus, the metropolitan of Tours, to procure for him *commentarios Boetii in Topica Ciceronis quos in chartacio codice... Amalricus in armario Sancti Martini habet* [3]. In 845, when Vivian became abbot and the deed of his predecessor Adalbaldus was confirmed by Charles the Bald, Amalricus, it would appear, was still in charge of the school [4]. In the next year he may have become dean [5], and in 849 he was elevated to the Archbishopric of Tours [6]. He died, most probably, in 855 [4]. On our supposition he would be fifty-five at the time and about sixty when appointed archbishop. On the other supposition he was under fifty then, and about fifty-five at his death. Either hypothesis would fit the facts.

But our hypothesis receives support from the cases of Milo and Guichardus. As they are not in the list, these men, who, we are told, were brothers [7], must have joined the monastery later. In 841 they already hold offices of importance in the *schola*, and were regarded as the successors of Amalricus. If they entered at about the age of twenty shortly after the list was made, they could be now about forty. They would be hardly thirty if the list were made late in the abbacy of Fridugisus. Milo was evidently the

[1] MABILLE, *op. cit.*, p. 81, No. 42 (XXXV); MARTÈNE, *op. cit.*, I, 32.

[2] This reasoning would apply more forcibly still to No. 212.

[3] The letter is dated 843 by G. DESDEVIZES DU DÉZERT (*Lettres de Servat Loup*, in *Bibl. des Hautes Études*, fasc. 77, 1888, p. 91) but without real evidence. It falls somewhere in the period 840-846 or 847 (so LEVILLAIN, *Bibl. de l'École des Chartes*, LXII, 1901, p. 492) or possibly 842-846 (so DÜMMLER, *M. G. H. Epist.* VI, 1, p. 24).

[4] MABILLE, p. 89; MARTÈNE, *Thes. Anecd.*, I, 33.

[5] An Amalricus is mentioned as dean in a deed of Vivian's (*Gall. Christ.*, XIV, c. 171). HAURÉAU is uncertain ("*forsitan S. Martini*") and MABILLE, p. 30, does not include Amalricus among the deans. But there seems to be no positive evidence for excluding him.

[6] *Gall. Christ.*, XIV, 88 f.

[7] See *Gall. Christ.*, XIV, 256 f.

elder. He is mentioned as *magister scholarum* in 845 and 856 [1], and shortly after seems to have resigned in favor of his brother, or another Guichardus [2], who had become *magister* in 857 [1]. Milo must have been fairly old at the time, over fifty-five by our reckoning, but not over forty-five on the other hypothesis. He lived at least till 860, as he is metioned in a document of that year [3]. We may also follow the career of Guichardus (or Wichardus). In 851 [4] he is presented by Charles the Bald with the cella of St. Columba, to be his for the rest of his days. He was then at least fifty, according to our hypothesis, and worthy to receive a dignity of this sort. He did not retire from active service, however, if it is still the Guichardus who was *magister scholarum* in 857 [5] and dean in 878 and 879 [6], at the not impossible age of seventy-nine [7]. He had died before 894, for in a document of that year on the matter of the *scholae* [8], Odulricus refers to both Milo, Guichardus and Ermengarus as his predecessors. Two other important dignitaries mentioned in the document are Hacsinnus *praepositus* and Siwaldus *decanus*. On our supposition, they would be just about forty at the time, and would not probably have been much younger. On the supposition of a later date for the list (832), they would be under thirty.

A few other clues appear in the documents relating to St. Martin's and dating after 818. Grimaldus, not in the list, was dean in 845 or 846 [9], at the age of forty-five by our hypothesis but only thirty-three by the other. It is not sure, we must add, that he was dean of St. Martin's [10]. In 849, Adalmannus *levita ex coenobio... Sancti Martini* [11] bequeathed certain property to the monastery even as his father had done in the days of Fridugisus. The father had evidently stipulated that the son, an inmate of St. Martin's, should possess the estate during his lifetime, and the son now confirms the original bequest to St. Martin's. The name Adalmannus is not on the list. Whether he is Adalmandus, No. 195, or entered later, he was young at the date of the list, which is therefore more probably 820 than 832. In 857, Seramannus *praepositus*, No. 203

[1] MABILLE, p. 30.

[2] See below, n. 7.

[3] See *Gall. Christ.*, XIV, 256 f.

[4] MABILLE, No. 54 (LXXX); *Rec. des Hist. de la France*, VIII, 518.

[5] MABILLE, No. 77 (XXV).

[6] *Ibid.*, No. 78 (CXVIIII).

[7] Possibly, however, Wichardus *clericus* who wrote the deed of 841 (*rogatus scripsi et rescripsi*) is another and a younger man than the *magister scholae* who in this deed is called Guichardus. The scribe Wichardus, then, would be the dean of 878 and 879.

[8] MABILLE, No. 97 (XCVIII). Ermengarus evidently came after Milo and Guichardus and of course is not in the list.

[9] MABILLE, No. 48 (XXXVIII); *Gall. Christ.*, XIV, inst. 33.

[10] According to Mabille and Hauréau (see preceding note) he was dean at some other institution. He is one of the signers of the deed in which Orsmarus, Archbishop of Tours, made a bequest to St. Martin's. Besides Orsmarus, the Abbot Heirardus and Bishop Actardus also signed. Why might not Grimaldus have been dean of St. Martin's? It would be appropriate for two of the signers to represent the monastery and two the donor. Grimaldus is not chronicled elsewhere, so far as we have been able to ascertain.

[11] MABILLE, No. 52 (C); *Rec. des Hist. de la France*, VIII, 502.

on the list, decides a certain case [1]. He would be not quite sixty by our hypothesis and about forty-five by the other, either age being conceivable [2]. Possibly, but not very probably, evidence can be extracted from a document of 891 or 892 [3], which tells how Gauzvinus, dean and provost, Berno the treasurer, Odulricus master of the school, and other canons of St. Martin's went to Suèvres, some forty or fifty miles away, to attend a certain case. If this Gauzvinus is the same as No. 194 (spelled Gauzhuinus and Gauzhwinus) on the list, he was a remarkably active man for his years, whether they were ninety on our supposition or eighty on the other. Odulricus, if he is Odalricus, No. 200 on the list [4], is similarly aged and energetic. But it is far more probable that both men, though bearing the same name as former inmates of St. Martin's, joined the congregation considerably after 820. In fact we are forced to this conclusion by turning to still later documents and finding that Gauzvinus was still dean in 907 [5].

Our examination of these data shows significant coincidences between men of the mid-century and names at the lower end of the list – Amalricus, Adalmannus (?), Saramannus – as comports with an arrangement of the names in order of seniority. We have further found that officials prominent in the mid-century – in 841 Milo, Guichardus, Hacsinnus, and Siwaldus, in 845 Grimaldus (?) – are not in the list and hence entered the monastery later than its date. While it is of course possible that a very young man rose rapidly to high position, or that a man of maturer years may have joined the congregation after the date of the list and soon been appointed to office, it is not probable that all the cases [6] here discussed are thus exceptional. Such evidence induces us to date the list not later than 820. We have positively proved that it cannot be earlier than 818.

One important man of the mid-century, Aregarius, may belong to the generation of the scribes of the Livy, if he is Haregarius, No. 74 on the list. Aregarius is one of the four donors mentioned in the subscription of the beautiful Bible [7] presented in the abbacy of Vivian (845-851) to Charles the Bald. At that time he would have reached, by our estimate, something over seventy years. Berger suggests that perhaps he was the copyist [8] of the Bible, and that the others [9] named with him, Amandus and Sigvaldus,

[1] MABILLE, No. 56 (CX).

[2] On Aregarius *clericus*, the notary of the deed, see below, p. 31, n. 2.

[3] MABILLE, No. 95.

[4] Odulricus (Odalricus) No. 124 is out of question. The name is found frequently.

[5] MABILLE, p. 30.

[6] For another certain case (Amandus), see *op. cit.*, p. 27 and for another possible case (Sigilaus), see p. 29.

[7] Paris, 1. See BERGER, *op. cit.*, p. 217.

Haec etiam pictura recludit qualiter heros
Offert Vivianus cum grege nunc hoc opus.
Ante ubi post patrem primates, mundus Amandus,
Sigvaldus iustus, summus Aregarius,
Quis tribus est probitas, pietas, verumque fidesque,
Cetera honesta quoque consociata simul.
Quartus his iunctus haeret, sanctissime David,
Qui te vi tota mentis amore colit.
Hi proni tibimet domini de parte beati
Martini ac fratrum ecce librum tribuunt.

[8] Incidentally, the book is in more than one hand.

[9] The fourth who, as Berger suggests, may well be the modest author of the execrable verses, is unnamed. DELISLE, *Mémoires*, etc., p. 40, curiously thought his

were the decorators of the manuscript. This is most unlikely. These persons are not scribes at all, but, rather, officials of the monastery and are in fact called *primates* [1]. The epithet *summus* applied to Aregarius is appropriate enough for a man of great age and dignity [2], while Sigvaldus may well be the dean Siwaldus mentioned in the testament of 841 [3]. To the evidence given by his name for an early dating of the list should now be added that of Amandus, who likewise is not mentioned in it.

We may now turn to the names at the head of the list and search for references to them in the documents and literature of the times. On June 22, 785, Gulfardus [4], a monk of noble birth, made important bequest to St. Martin's [5] on condition that Sigelaus *clericus* and Raganardus *diaconus* should possess the estates in question during their lifetime, giving rental to the monastery. Sigilau is No. 9 on the list. By our calculation he would be over seventy in 820, and something like forty at the time of the bequest. He can hardly therefore be the Sigilaus who superintended the copying of the famous Gospels of Lothaire, written between the years 843 and 855 [6]. The latter was a person of great importance, certainly not the scribe. He bears the same relation to the undertaking that Vivian did to the writing of his famous Bible [7]. There is no evidence that he was abbot at the time, but he was a high official of some sort, who took orders directly from the king. If he is not No. 9 on the list, he joined the congregation after the list was written. In that case, his name and dignity corroborate the evidence already given by Sigvaldus and the others for the earliest possible dating of the list.

Raganardus is well known as one of the favorite pupils of Alcuin. The anonymous author of the latter's life, a monk of the monastery of Ferrières, writing between the years 823 and 829, remarks [8]:

Discipulis similiter tradebat (i. e., devotional habits), quorum nobilissimus Sigulfus erat Vetulus, magnanimusque Withso. Post hos Fredegisus et eius socii. At tempore iam ultimo haerebant ei assiduo Raganardus, Waldramnus, qui adhuc supersunt; Adel-

name to be David and identified him with No. 41 on the list, whereas *sanctissime David* obviously refers to the king. We would suggest, rather, that he is Amalricus, *magister scholarum* at the time.

[1] This seems the simplest emendation of the meaningless *primites*. Traube (*op. cit.*, p. 427) suggested primnites (πρυμνήτης). Since the page is much faded, the present text of the subscription as given by Hauréau (*Gall. Christ.*, XIV, 171), Delisle and Berger may go back to a faulty transcription and thus be fair field for emendation.

[2] It does not seem likely that this high official, quite apart from considerations of age, was also the scribe of the document of 857 discussed above (p. 30, n. 2). See MABILLE, p. 206, index s. v.: *Aregarius, clericus, scriptor cartae*.

[3] See above, p. 30, n. 7.

[4] Not the abbot of this name, who had died by 774; see *Gall. Christ.*, XIV, 161.

[5] MABILLE, No. 20 (XXXVII); MARTÈNE, *op. cit.*, I, 69.

[6] BERGER, *op. cit.*, p. 251. It is of course barely possible that Sigilaus was still alive in 843, a very old man of ninety-three. Or if, after all, officers stand first in the list, Sigilaus might have been of any age in 820. We could then suppose him a young man of twenty in 785 and nearly eighty in 843.

[7] *Sed Sigilaus, parens iussis regis studiose,*
Hoc evangelium illic totum scribere iussit.
(BERGER, p. 252).

[8] *Monumenta Alcuiniana*, ed. Wattenbach et Duemmler in *Bibl. Rer. Germ.* (Jaffé), VI (1873), 20.

bertus quoque beatae memoriae, quantum poterat, Sigulfi tunc filius, post autem venerandus pater, et multi alii, quorum omnium utinam noverit Christus nomina.

Sigulfus, later abbot of Ferrières, and his pupil and successor, Adelbertus, dead at the time when the author wrote, are naturally not on the list of St. Gall. Withso, too, had passed away. Waldramnus and Raganardus were somewhat younger, it would appear, as they were associated with Alcuin during his last years. The writer asserts that they were still alive. Their names appear, as by our hypothesis they must, on the list of St. Gall; they are Nos. 47 and 71, in the same group with the scribes of the Livy. Both men, between fifty and sixty years of age in 820, would have been in their prime towards the end of Alcuin's life. We have their autographs, it would seem, in the signatures Waleramnus and Ragennardus found in the Vatican Livy [1]. Their intimacy with Alcuin is proof of their capability, and perhaps lends support to our guess that they had served as correctors in the scriptorium shortly before his coming to Tours. At the time of the bequest of Gulfardus in 785, Raganardus would be a young man not much over twenty. As the evidence of various names of the mid-century has pushed back the date of the list as near as possible to 820, so the present instance exerts a pull from the other side toward the same point. If, for a moment, we adopt the other assumption that the list was written about 832, Raganardus would have been in 785 a tender lad of eight, not the kind of person who would ordinarily be distinguished with such a bequest, and a bit immature for the diaconate.

The next document of importance relates to the founding of the abbey of Corméry by the abbot Iterius, Feb. 7, 791 [2]. The deed is signed by Iterius and fourteen others, some but not all of them monks or officers of St. Martin's [3]. The mention of Christianus suggests that Marmoutiers may also have been represented, for there was a monk of that name in that monastery during Alcuin's regime [4]. Of the fourteen names, seven coincide, or nearly coincide, with names on the list of St. Gall. Those of Lambertus, if he is Lanpertus, No. 4 [5], Madalbertus, if identical with Matlebertus, No. 22, and Zachaeus, if No. 45, conform to our theory, according to which Lambertus could be a good deal over forty in 791, Madalbertus just about forty, and Zachaeus about thirty-five. Of the other coincidences, Aimo and Haimo suggest Haimo, Nos. 84 and 94, Frambertus is found at No. 106 and Gaudius at No. 137. The latter, a small boy in 791, must be excluded from consideration; so probably must the others, all under

[1] See above, p. 26. Though there may be doubt on this matter, it is certain that the pupils of Alcuin are Waldramnus and Raganardus of the list, the point on which the present argument depends.

[2] MABILLE, No. 24; *Gall. Christ.*, XVI, inst. c. 11.

[3] Iterius declares in signing: *Quod et nos manu propria... roboravimus atque confratres nostros caeterasque personas firmare rogavimus.*

[4] See *Mon. Alc.*, p. 641.

[5] Lantbertus, No. 56, is less probable, and Lantpertus, No. 216, is out of question.

thirty in 791, unless Iterius intentionally selected representatives of all ages as signers. It is more probable that we are here concerned with older and younger men of the same name, especially as others besides the inmates of St. Martin's were among these signers. The name Frambertus *presbyter* appears again as that of a donor in a deed of about 804, in which Alcuin makes bequests to Corméry[1]. He may or may not be the man who signed the deed of 791. Haimo is a name very frequently occurring.

One more piece of evidence[2] we may examine in conclusion.

One scribe of the period 804-834, Adalbaldus, is well known. His signature and the hand of the Quedlinburg manuscript leave no doubt that this distinguished scribe had reached the height of his development as a copyist during the abbacy of Fridugisus. At what we have sought to prove the date of the list, 820, he would be in his prime. Now the name Adalbaldus occurs as the 58th in the list of St. Gall, that is, as Traube pointed out[3], in the same column as the scribes of the Livy. With this fact our theory would seem to fall to the ground. Here is the first real obstacle that it has confronted. For we have been arguing that in 820 our scribes and the men ranked with them in the list had passed their zenith. But it is hard to associate Adalbaldus with them. Nobody who compares the Quedlinburg manuscript with the Livy can suppose for a moment that the two books are typical work of the same monastery at the same period. In spite, then, of the evidence which we have amassed, are the names arranged at haphazard in the list? But we must explain, once more, why the scribes of the Livy appear in a definite group. We are confronted, it would seem, with a veritable crux. Looking on further in the list, however, we find the difficulty solved. The name Adalbaldus occurs again as No. 152, this time, we are confident, that of the great copyist of the Quedlinburg manuscript. In 820, as all would admit, he was in his prime. In 820, according to our calculation from the list, he would be between thirty and forty, in his very prime. The scribes of the Livy by the same evidence are his seniors by fifteen to thirty years. Twenty-five years before, immediately preceding the abbacy of Alcuin, their ages would range from twenty-five to forty. They were then in their prime. The Livy was written considerably before Adalbaldus had developed his talent; by the time he had mastered the beautiful script of the Quedlinburg book the day of the earlier Adalbaldus and of the scribes of the Livy was past.

[1] MABILLE, No. 27. MABILLON, *Acta SS. B.*, IV, 169. Leotardus *vir nobilis*, also a donor, seems not to have been a monk of St. Martin's, at least at this time, but we may note the appearance of the name (Leuthardus, etc.) in the list, Nos. 38, 52, 109.

[2] After traversing the ground with some care, I can find no data that militate against our assumption. All evidence of any importance is reported here. A promising list of signers is appended to a deed of 813 (MABILLE, No. 29 (LIV); *Gall. Christ.*, XIV, inst. c. 15) in which count Helingaudus makes bequests to St. Martin's. As the coincidences between this list of over fifty with the almost contemporary list of St. Gall are so few and dubious, it is safe to conclude that the signers are not monks but representatives of the count, with the possible exception of two deans, not in the list of St. Gall, Erinlenus and Germodus. E. K. R.

[3] *Op. cit.*, p. 427.

After finding, therefore, sufficient evidence from the character of the script to put the Bamberg Bible in Alcuin's period and the Livy before it, we see external corroboration of this assumption in what seemed at first historical evidence against it. If our proof of 820 as the date of the list be accepted, we have found an important touchstone for testing the age of a whole series of manuscripts [1]. The evidence in our present case will appear the more convincing after an examination of the various hands in the Reginensis.

The Vatican manuscript contains the larger part of the third decade of Livy, beginning at XXII, 6, 5 with the words *velut caeci* and ending at XXX, 5, 7 with the words *continua amplexus*. It is bound in a modern red morocco binding and contains 258 parchment folios, of which the last one is blank and unnumbered. The dimensions of the folios are 310×240 mm., and those of the text itself 215×164 mm. With a few exceptions [2] there are twenty-nine lines to the page. Altogether there are thirty-five gatherings, but because of the division of the task of copying among several scribes, as will be seen later, not all the gatherings contain the same number of folios. Twenty-four of them have the normal eight folios each; the others will appear in the description given in Table I.

Since quire No. 2 is numbered VI in the manuscript, it is clear that four quires, including Livy XXI 1, 1 to XXII, 6, 5, are missing at the beginning. Just how much of the Puteanus the scribe of Tours found at the end of the manuscript is a less certain affair [3].

There appear regularly at the end of each gathering [4], as shown in Table I, the

[1] One instance may be mentioned here, that of the Berne Virgil (No. 165). DELISLE, *Gazette Archéologique*, IX (1884), 157, calls this one of the mid-century books. It was presented to the monastery, as a subscription shows, by Berno, *gregis beati Martini levita*, on condition that his relative Arbertus should have the use of the book during his lifetime. Berno is not in the list. If he joined the congregation after 820, we must allow some time to elapse before this bequest. There is a Berno who is mentioned as treasurer in documents dating from 888 to 895 (see MABILLE, Nos. 90-99). But the subscription seems in both language and lettering to be too early either for this Berno or for any one who had not entered S. Martin's till after 820. Therefore Berno died before that time, and the book could have been written, say, about 810, i. e., in the Alcuinian rather than in the mid-century period. Arbertus is not in the list, unless he is Hartbertus, No. 24, who would be of an age appropriate under the circumstances. The possibility that Alcuin prepared a special edition of Virgil is worth considering.

[2] The exceptions are as follows: Foll. 102-103^{v} have 30 lines. When the scribe reached 101^{v}, he saw that he needed more room in the rest of his small gathering of six leaves, and hence added a line in the top margins of the remaining pages. Fol. 242^{v} has but 27 lines, and foll. 243 and 251 to 257^{v} have 28; these pages are in the section copied by Landemarus II, who, to judge from the paragraphing, the unfinished lines, and the sprawly hand, was writing to cover space in his last two quires. Fol. 242^{v} is a clear instance of miscalculation at the close of a quire, as may be seen from the crowding and running over into the lower margin on fol. 242.

[3] See below, Table II.

[4] In the 35th gathering the name is missing altogether because of the loss of the last folio. In the second the name stands at the beginning. This is probably due to the fact that as the scribe approached the end of the preceding gathering (the first in the manuscript as it now stands), his calculation showed him that he would need just three folios more for the text that remained. The director therefore gave him a gathering of four folios, having first cut off the last leaf and having written the name at the beginning.

names of the scribes who did the copying. Shipley [1] thus describes the way in which the scribes were set to work:

" The manuscript was therefore the work of eight different scribes, each of whom, to judge from the amount done by those whose work is preserved to us in its entirety, copied about forty-four folios of the text, with the exception of Nauto and Theogrimn, who together copied that number. Chatelain [2] noticed that the end of the work of Gyslarius corresponded, even to a syllable, with the end of quaternion IX of P; that of Aldo, with the end of quaternion XVIII; that of Fredeg, with quaternion XXVII; that of Nauto and Theogrimn together, with quaternion XXXVI; that of Theodegri, with quaternion XLV; that of Ansoaldus, with quaternion LIV; and that the writing of the last page of the work of each scribe was spread out or condensed so as to coincide with the end of the quaternion of P. He concluded therefore that the old fifth century uncial manuscript had been taken apart, and equal portions, of nine quaternions each, had been given out to the scribes to be copied simultaneously ".

It is possible to get a more detailed and accurate picture than this. First, it has thus far escaped observation that in no case are the signatures of the copyists autographs, for they nowhere agree with the text in either ink or script. It is equally obvious, in the manuscript itself if not in our plates, that all the signatures are in one and the same hand and ink [3]. They were written therefore, it seems clear, by the director of the scriptorium before the copying began. No doubt the borrowed Puteanus could be kept at Tours only a short time, and it was necessary to employ a goodly number of copyists. There were eight [4] in all, but two of them, as will appear, were rather slow workmen. The director took the Puteanus apart and divided it into seven equal sections of nine or ten quaternions each. He reckoned that a section of the uncial Puteanus could be copied in minuscules on about forty-four folios. This number did not allow gatherings of equal length, and since all the scribes were to begin at the same time, it was necessary to vary the gatherings in whatever way he could. Hence he made most of them of eight folios, but some of six and some of four and one of ten. In some cases he inserted single leaves, unless, as is perhaps more probable, these were added by the scribe who later found his material too scanty. Finally the director wrote on the gatherings the names of the scribes to whom they were to be assigned, and also a number, as q̄ I, q̄ II [5], or a letter under a bracket, as ⌈a, ⌈b [6], on each quire of an assignment.

[1] *Op. cit.*, p. 11.

[2] *Rev. de Phil., op. cit.*, p. 82.

[3] A feature of the hand is the frequent, though not exclusive, use of the uncial *g*. Both uncial and minuscule *d*, closed and open *a*, cursive and minuscule *r* appear.

[4] A ninth may have been called in later to complete the portion assigned to Landemarus. See below, p. 38.

[5] Examples on foll. 165v, 173v, 201v, 217v, 228v.

[6] Examples on foll. 165v, 179v. Possibly the senumberings, as Chatelain suggests (*Rev. de Phil.*, XIV, p. 81), where added by the scribe on completing the gathering. Where both figures and letters appear, as in the assign-

Full assignments were made to six of the eight scribes: Aldo [1], Fredeg(audus), Theodegrimus, Ansoaldus, Landemarus, and, so far as we know, Gyslarus. All of these save Landemarus completed their work. An exception was made in the cases of Nauto and Theogrimnus, to whom in common was given one assignment of forty-four folios, doubtless because one or both of them, for some good reason, were incapable of doing so much work as the others. The director knew further that less could be expected of Nauto than of Theogrimnus. He therefore gave to the former only two quires, one containing six folios and the other eight (foll. 98-111^{v}); while he gave to Theogrimnus four quires, three of eight folios and one of six (foll. 112-141^{v}). This common portion thus consisted of foll. 98 to 141^{v}. The director was evidently justified in his fears of the inability of these scribes, for they were not equal even to the small amount assigned them. Nauto gave out when he had written the eighth line of fol. 99^{v} (see Pl. 9). Meantime Theogrimnus had started at the beginning (fol. 112) of the section assigned to him, had completed his first quire, and had written through the word *basdrubale* on the nineteenth line of fol. 120^{v} (see Pl. 10). At this point it was probably suggested to him that he go back and finish out Nauto's two quires. He began therefore at line eight of fol. 99^{v} - the marked difference in the ink is not shown in our plate - and finished the assignment of Nauto, that is, to fol. 111^{v}. It is obvious that he had to write for space in order to make Nauto's assignment fit on to his own. On fol. 111^{v} the script is noticeably larger, especially in the last line where, in spite of spreading out the last three words as much as possible, the scribe was obliged to leave a blank space at the end [2]. Meantime Theodegrimus, whose assignment had been the forty-four folios numbered 142 to 185^{v}, had already finished his work. He was therefore told to do the part left unfinished by Theogrimnus, that is, foll. 120^{v} - 141^{v}. In completing this amount he encountered the same difficulty at the end of the assignment as Theogrimnus

ment of Theodegrimus, the director may have written one set and the scribe the other. It might be worth while to search the Puteanus for erasures of names or marks connecting the sections of that manuscript with the assignments in the Reginensis.

[1] The names of the scribes are given here as they appear in the manuscript but with the compendia written out. The abbreviation Fredeg̃ stands more probably, though not certainly, for Fredegaudus rather than for Fredegisus. The former name is No. 77 in the list, coming immediately after that of Nauto. The abbot of St. Martin's, it seems, spelled his name Fridugisus (MANITIUS, *Gesch. der latein. Litt. des Mittelalter*, 1911, p. 461). If the Livy was written during his regime, he would hardly, as abbot and chancellor of the king, have plied the copyist's task. Shipley, moreover, (*op. cit.*, p. 12) finds more blunders in the work of this scribe than a scholar like Fridugisus would have made. If the book was written before Alcuin, Fridugisus was perhaps too young then to be classed with our scribes; in a letter dated 796 or 797 (*M. G. H., Epist.* 121, vol. IV, p. 176, 9) Alcuin calls him *puerulum*. But if, for all that, he was a scribe in 795, his youth might account for his errors. Nor can much of an argument be made from the spelling of the name in that age of uncertain orthography. The lists give the same forms as the manuscript for Aldo, Nauto, and Ansoaldus; but Gyslarus appears as Gislarius, Landemarus as Landamarus, Theodegrimus as Teutcrimus in the first list and as Theotcrim in the second. Theogrimnus is written in the manuscript Theogrimn̄ (fol. 127^{v}) and Theogrīn̄ (fol. 119^{v}), and the name is missing in the lists.

[2] He evidently had also calculated what the preceding quire ought to contain, for he added an extra line in the top margins of foll. 102-103^{v}. See above, p. 34, n. 2.

had found with that of Nauto. At about fol. 138 he calculated that he had too little text for the space left. Therefore on the following pages whe rote a very spreading hand. After he had begun, however, to write the last page, fol. 141^{v} (Pl. 11), he found that he had miscalculated and that he had now to condense by every means at his disposal in order to crowd in the remainder of the text. He thus resorted to abbreviations, which are very rare elsewhere in the manuscript, using various ligatures and abandoning his sprawling open *a*, but nevertheless he was forced to run over into the lower margin for an extra half-line [1]. Probably, too, he wrote the first gathering in the assignment of Landemarus [2]. Theodegrimus, if not the most perfect of the scribes in either elegance or accuracy [3], is by all odds the speediest.

The practice of spreading or crowding in order to make text and space come out even is clearly seen also at the end of various assignments, as, for example, on foll. 50^{v}-52^{v}, the end of Aldo's assignment; on fol. 97^{v}, the end of the assignment of Fredeg(audus); on fol. 185, where Theodegrimus runs over into the lower margin, thinking he has not space enough left, only to find on fol. 185^{v} that he has not quite text enough; on foll. 227-228^{v}, where Ansoaldus first spreads his writing wide to cover space and then at the end is forced to run over into the lower margin.

Shipley says [4]: " In the handwriting of these eight scribes there is little variation. It is almost impossible in the case of several of them to distinguish at first sight the hand of one from that of another, which goes to show that, in this one scriptorium at least, the Caroline minuscule had been brought as nearly as possible to uniformity ". This remark is generally true, though a far nicer uniformity was in prospect for the school of Tours. At second sight it is not difficult to distinguish and to name all or nearly all the hands in the Reginensis. There are only two cases of uncertainty. One problem is to determine the assignments of Nauto, Theogrimnus, and Theodegrimus. The analysis given above, however, can be verified by reckoning back from the assignment proper of Theodegrimus (foll. 142-185^{v}), where, and where only, the name Theodegrimus appears as a signature [5]. Of the six quires here included the last is signed VI (fol. 185^{v}), and corresponding numbers or letters are visible on quires III, IV, and V. The hand throughout this section is the same. We may confidently call it that of Theodegrimus, just as we have discovered the scripts of Gyslarus, Aldo, Fredeg(audus), and Ansoaldus in the portions assigned to them. Now precisely the hand of Theodegrimus, a very characteristic hand, appears in foll. 120^{v}, l. 20 - 141^{v} (see Pl. 10) of the

[1] See Pl. 11.

[2] See below, p. 38.

[3] See SHIPLEY, *op. cit.*, pp. 14, 166, 188 ff.; and also below, p. 38, n. 5.

[4] *Op. cit.*, p. 13. See also CHATELAIN, *Rev. de Phil.*, XIV, p. 81.

[5] As to fol. 141^{v}, see Table I.

section originally assigned to Theogrimnus [1]. The hand preceding fol. 120^{v}, l. 20 is therefore that of Theogrimnus, who wrote certainly quire 17 (foll. 112-119) which bears his signature. But this hand runs back, with certain variations in size and in ink (fol. 100), through fol. 99^{v}, l. 9. That leaves for Nauto only foll. 98-99^{v}, l. 8. It was not Nauto, then, who did the work of Theogrimnus, as Shipley [2] concludes, but Theogrimnus who did the work of Nauto. The prize for careful copying [3] must be surrendered by Nauto to Theogrimnus, although the former in the small section which he finished showed himself also a careful workman [4].

The remaining problem is concerned with the assignment of Landemarus. Quires 32-34 were given out to him, as the signatures show, and as quires 33-35 are in the same hand it is most likely that the signature on the missing last folio (258) was also Landemarus. Quire 32, however, is in an entirely different hand. If we mistake not, it is that of Theodegrimus once more [5]. For caution's sake we shall call it Landemarus I, a scribe who had caught Theodegrimus's manner to perfection. Landemarus II began his work with quire 34 (fol. 243), which coincides at the beginning with Puteanus, quire LVIII (Livy XXX, 21, 7, *populum Romanum*). How far Landemarus II wrote, we have no means of knowing. He doubtless finished quire 35, and there probably remained at least two quires more, now lost [6]. At any rate, before this scribe had ended, Landemarus I – again we suspect the indefatigable Theodegrimus – had taken up the first quire in the assignment, No. 32, which he finished. Landemarus II returned in time to do quire 33

[1] Shipley (*op. cit.*, p. 15) did not observe that the hand is the same, but evidently the two sections agree in the kind of blunders they contain (p. 14).

[2] *Op. cit.*, pp. 12, 13.

[3] SHIPLEY, *op. cit.*, p. 13 f.

[4] According to Chatelain (*Rev. de Phil.*, XIV, p. 81), Nauto did all of Q. 15 and 16, and indeed (p. 84) a full assignment of 44 folios. Shipley (p. 11) assigns Q. 15-20 (foll. 98-141) to Nauto and Theogrimnus. His account of the work done by Nauto is also inconsistent. On p. 11, n. 1 he says that the script of Nauto stops abruptly on fol. 112^{r}; on p. 13 f. he says that it includes the whole quaternion ending with fol. 119^{v} and nearly a folio of the next quaternion, i. e., to fol. 120^{v} (Pl. 10). We note no new hand on fol. 112. Evidently Shipley's real meaning is given in his latter statement, for the change in script on fol. 120^{v} is obvious. The writing on foll. 98-120^{v}, we admit, might easily at first sight be attributed to one scribe. If that is true, either Nauto did no work, or Theogrimnus did no work, or Theogrimnus is identical with Theodegrimus. None of these suppositions (on the last, see above, p. 26) seems likely, whereas the assumption that two scribes were alike accurate and had mastered very similar scripts is not at all improbable. Further, we must account for the writing to fill space at the end of Q. 15 (fol. 103^{v}) and Q. 16 (fol. 111^{v}). As the end of neither gathering corresponds to one in the Puteanus, there is no urgent motive for these attempts at adjustment thus early in the section, unless Q. 17 (foll. 112-119) had already been begun. If one scribe did Q. 15-18, fol. 120^{v}, it is curious that he began with Q. 17, which does not start even with a gathering of the Puteanus. If, however, as the signatures show, Nauto was assigned Q. 15 and 16 and Theogrimnus Q. 17-20, it is easy to see why Theogrimnus started with Q. 17 and why he had to calculate his space on returning to finish Nauto's work. We conclude, then, that there are two hands, though very similar in characteristics, in foll. 98-120^{v}.

[5] The peculiar error of resolving the compendium $\overline{\text{p}}$ into *prae* instead of *Publius* or *publica* which Shipley states (p. 189) is confined to Theogrimnus and Landemarus, occurs only in the instances he cites, in foll. 120-141 and 229-236, the first of which sections is indubitably by Theodegrimus, the latter by " Landemarus I ". Various similar errors in resolving p or $\overline{\text{pr}}$ (see pp. 188-191) should be attributed to Theodegrimus and not to Theogrimnus.

[6] See Table II.

(foll. 237-242), finding difficulty in fitting it neatly to quire 34, which he had already done. On fol. 242 he first used too compact a script, and then seeing his error, covered more ground. He was left, however, with two unoccupied lines at the end of fol. 242^{v} (Pl. 14).

In all, then, we find the work of eight and perhaps nine scribes in this manuscript. Possibly still another helped out with the concluding quires now lost: possibly they were done by Theodegrimus.

After the task was completed, or rather while it was going on, correctors were employed to oversee it. Shipley [1] discovered the interesting fact that though the correctors were not much more acute than the writers, the mistakes which they pointed out in the first gathering of a scribe's work did not appear thereafter. Their names may possibly be given in the signatures which are found here and there in the manuscript. Those of Ragennardus and Waleramnus appear on different quires of the section of Fredeg(audus), Hedelfredus signs the work of Theogrimnus, Bavo that of Theodegrimus, Teutlaicus that of Ansoaldus, Ivinus that of Landemarus I, who may be Theodegrimus again. Chatelain suggests [2] " qu'il s'agit d'une série de copistes chargés de reproduire à leur tour notre Turonensis ". If this be true, we might perhaps find signs of these names in Laur. LXIII, 20, in case that manuscript is a direct copy of the Reginensis [3]. We should expect, however, that the names would all be in the same hand, like those of the scribes of our manuscript. On the contrary, they are individual signatures. The script seems to us not somewhat later, as Chatelain thought, but contemporary. This is certainly the case if we are right in identifying Ragennardus and Waleramnus with Raganardus and Waldramnus, the pupils of Alcuin, whose names occur at the same place in the St. Gall list with those of the scribes [4]. Of course the names may have been added not by correctors but by readers of the book. It is noteworthy, however, that no two appear in the same gathering.

The final act before binding was to number the quires consecutively from the beginning of the book [5], and also, it would seem, to erase the signatures and the quire numbers of the separate assignments. The signatures, then, do not, like certain subscriptions of the period, stand for the pride of the individual artist in his work, but are the director's device for avoiding confusion [6]. We can condone the negligence of the scribes or of

[1] *Op. cit.*, p. 14. Loew makes the same observation of the correctors in Beneventan scriptoria. See his *Beneventan Script*, 1914, p. 294.

[2] *Pal. des class. lat.*, p. 8 (on Plate CXVII).

[3] Shipley indicates (p. 9) that the Laurentian takes some of its readings from other sources.

[4] See above, p. 32.

[5] We are not absolutely certain that in this case the quire numbers, though ancient, are contemporary.

[6] Such is the case, doubtless, with a manuscript of the philosophical works of Cicero (Leiden Voss. F. 84, s. IX), on which Chatelain gives a note (*Rev. de Phil.*, XIV, 81). Quaternions 1 to 6 are signed with the letter R (not, unfortunately, a sure proof of " la modestie " of the scribe). Quires 7 to 12 also bear the numbers I to VI, placed there, Chatelain rightly observes

the director in failing to erase the names and the numbers that are left and thus giving us a clue to the secrets of the scriptorium in the times of Charlemagne.

The details of the foregoing description are resumed in Table II, which shows how the seven sections of the Puteanus were copied in the scriptorium of St. Martin's. A somewhat minute examination of the script of the several scribes reveals certain clearly distinguishable traits. These can be described best under the names of the scribes.

GYSLARUS [1].

There remain altogether only eight folios of this hand, Q. 1-2 (foll. 1-8^{v}) [2], and they contain no example of the scribe's practice in writing majuscules or semiuncials. The hand is quite clear and somewhat more regular than most of the others, approaching more nearly the developed style of Tours as seen in the Bamberg Bible.

Minuscules: The proportion of closed to open *a* is about 3 : 1; the open *a* is often of the double-*c* form, the two *c*'s occasionally connecting and forming something like the broad-topped *a* of the semiuncial. Uncial *d* occurs rarely, chiefly at the ends of lines. The *g* is very much in the form of the developed *g* of Tours, but with a tendency to close the final loop below; the letter is often connected by a cursive stroke with a preceding *a*. There is an occasional *i longa*. Capital *N* occurs thirty or forty times to the page. The *r* is regular, except in the ligatures *ra* (rare) and *re* (rather frequent), where the tall cursive form, common in Merovingian script, appears. The ligature *rt* is employed, but the ligature *st* is avoided. What we may call end traits, that is, ligatures, abbreviations, or peculiar forms used at the ends of lines, are few and simple. At the ends of lines the ligature *NT* occurs rather frequently, and the ligatures *OR* and *us* occur once or twice. The abbreviations already in the uncial Puteanus, such as $\overline{\text{PR}}$, $\overline{\text{TR}}$·$\overline{\text{PL}}$, praenomina, etc., are retained uniformly by all the scribes; in addition to these, Gyslarus uses only the colon after *b* and *q*, the *m* stroke over *a*, *e*, *u* (chiefly at the ends of lines), and the *e* enclosed between two dots and with a stroke over it for *est*, which, however, is usually written out.

before the volume was bound. Indeed they may have been placed there before the writing was done (see above, p. 35). A similar system may be noted in Chartres 40 and Orléans 270, two books of Fleury, the first of the eighth century, the second of the early ninth.

[1] Gislarius in the lists, No. 42. Signatures on foll. 5^{v} (indistinct) and 6. See Table I. A specimen of the writing and of the signature will be found on Pl. 6 (fol. 6). In all cases the descriptions are of course made up not merely from the plates but from the entire amount of the scribe's work.

[2] Livy XXII 6, 5, *velut caeci* ... 21, 2, *praeterquam quod*. These words end fol. 41^{v} and Q. VIIII in the Puteanus. See Table II.

ALDO [1].

This hand writes Q. 3-8 (foll. 9-52^{v}) [2]. The script seems to change several times, at the beginning of foll. 9^{v}, 12, 12^{v}, 16^{v}, 17, 20, 50^{v}, and on fol. 25. The change in each instance can be accounted for by change of ink, as is clearly the case on fol. 25, or by change of pen, as fol. 12, or by the spreading or crowding of the script to cover space, as fol. 50^{v}. Fol. 15^{v} was left blank because of the poor quality of the parchment. Aldo writes a large flowing hand.

Capitals: The *explicit-incipit* [3] is written in mixed majuscules; the letters *D* and *U* are clearly uncial, *E* is rustic capital, *A* is once uncial and once square capital. The heading occurs half-way down the page, the *explicit* (abbreviated $\overline{\text{EXPCT}}$) is crowded into a half-line left blank in the preceding minuscule text, and the *incipit* is spread out over the next line, the numeral being written out in full. The corresponding page of the Puteanus shows that the scribe is responsible for these curious features, since he did not find them in the parent manuscript, where the heading is in regular uncials.

Semiuncials: The first two lines of the text that follow the *incipit* are written in semiuncials, after the fashion so frequent in the regular script of Tours. Instead, however, of the beautiful forms of the later style, we find an irregular mixture of semiuncial, minuscule, uncial, and even capital (*E*) peculiarities. The caudate *c* for *g* is employed, and the shafts of the minuscules *b, d, h, l,* are crossed at the top. This latter feature appears in very early manuscripts of Tours, but was abandoned in the developed script.

Minuscules: The closed and the open *a* occur with indifferent frequency, now the one and now the other preponderating; the double-*c* form connected at the top is rather frequent, about five to a page. Uncial *d* is very rare, but is not confined to the ends of lines. The *g* is wide open in both upper and lower parts and at times shows an unusual slenderness and length; it is sometimes joined to a preceding *a* and not infrequently to a succeeding *e* by a heavy cursive stroke descending to the bottom of the *e*, the uncial form (the caudate *c*) appears in abbreviated proper names and once or twice stands for a corrected *c*. There is an occasional *i longa*, especially as an initial. Semiuncial *m*,

[1] No. 49 in the lists. Signatures on foll. 16^{v}, 24^{v}, 32^{v}, 40^{v}, 48^{v}, and 52^{v}. For specimens, see Pls. 3 and 7. See Table I.

[2] Livy XXII 21, 2, *ipsorum Hispanorum*... XXIII 35, 1, *cum post Can-* = Puteanus foll. 42-112^{v}, Q. X-XVIII. See Table II.

[3] Fol. 32; see Pl. 3.

with curved final stroke, is used in abbreviation for a proper name. Capital *N* occurs rather frequently; the ligature *NT* is found at the ends of lines. The *r* occasionally descends decidedly below the line; it is characteristic that the ligature *ra* is comparatively frequent while the ligature *re* seems not to occur at all. The ligatures *ct, rt, st,* are all employed. Abbreviations are generally avoided; on most pages the *m* stroke and the compendia for *-bus* and *-que* (*b*: and *b*;, *q*: and *q*;) occur exceedingly rarely (cf. Pl. 7). Even on fol. 32 (Pl. 3) where the scribe is evidently condensing, compendia are rare.

In general, while the minuscule on Pl. 7 gives an effect not far removed from that of the regular script of Tours, the character of the majuscule and semiuncial in the heading on Pl. 3 is a certain sign of earlier date. The careful system conspicuous in the Bamberg Bible had not yet been invented.

FREDEG(AUDUS) [1].

This large and stately hand, Q. 9-14 (foll. 53-97[v]) [2], is one of the nearest approaches in the whole manuscript to the general manner of the developed script of Tours, but there are certain startling differences in the use of ligatures, uncial and semiuncial forms, and the open *a*, which will be pointed out below. The hand is quite uniform throughout. There is a change of ink on fol. 53.

Capitals: There are two instances of the *explicit-incipit,* on foll. 62 (Pl. 4) and 91[v]. In the first instance we find, as in Aldo's heading, a mixture of uncials and capitals, *E, U,* and *I* having both forms; the heading is spread over three lines. In the second, capitals only are employed; the two *I*'s of *EXPLICIT* are reduced in size and written inside the *L* and the *C* respectively; only two lines are used. The scribe faithfully reproduces the erroneous *LIBII,* whereas in the first heading he emends *LIVII* to *LIVI.*

Semiuncials: Semiuncials are not found; the text following the headings cannot be called even an attempt to write semiuncials. Uncial *d* (l. 1) and *e* (l. 3) are not enough to differentiate the initial lines from the ordinary minuscules of the text, because both of these forms are to be found throughout the manuscript. Certainly the ligature *st* (l. 1) is foreign to both semiuncial and the developed minuscule of Tours.

[1] No. 77 in the list. Signatures (Fredeḡ) on foll. 60[v], 68[v], 76[v], 84[v], 92[v], 97[v]. Correctors (?) are Ragennardus and Waleramnus. See above, p. 39; Table I (p. 52), and Pl. 8. For specimens, see Pls. 4 and 8. Pl. 4 shows one of the headings.

[2] Livy XXIII 35, 1, *-nensem pugnam...* XXV 9, 9, *alia portantem* (error for *alia portam tem-*) Puteanus foll. 113-185[v], Q. XIX-XXVII. See Table II.

MINUSCULES: The closed *a* is slightly more frequent than the open, although on some pages the proportion approaches very nearly 1 : 1; the double-*c* form is found only in the ligature *ra*. In the ligature for *ae*, which rarely occurs, the tail piece begins with an oblique stroke which ends in a point and is succeeded by a curving stroke to the right. The uncial *d*, at the ends of lines and elsewhere, is a bit more frequent than with the other scribes. The *g* tends to close at the top, and altogether is very much like the developed form; the uncial *g* (the caudate *c*) occurs only as a correction of *c*. The *m* is characteristic; though generally regular, it is at times semiuncial, and sometimes all three of the strokes end in a decided curve to the left, particularly if the letter is used at the ends of lines (Pl. 4). So the last stroke of the *n* has rarely, at the ends of lines, a decided curve, as in one form of the semiuncial. Semiuncials are not used systematically, as by Aldo, for the abbreviation of proper names, though a form approaching the semiuncial *m* occasionally appears, as does the *n* with curving final stroke [1]. The capital *N* and the ligature *NT* are rarer than with the other scribes. A carelessness in making the *o* and the *c* is evident in the occasional failure of the scribe to join the two strokes at the top. The *p* is sometimes open at the bottom. The *r* is regular except in the very rare ligature *ra*, and even in that case it is a nearer approach to the regular *r* than with the other scribes; the ligature *re* does not occur. There is a sparing use of the ligature *st*; generally the two letters are written separately even in the word *est*. The *s* leans slightly towards the right. The tail of the *x* is unusually long. End traits are extremely simple; the ligatures *OR* and, more frequently, *us* occur; the use of semiuncial *m* at the ends of lines is a feature. There are few abbreviations; *b: q: q.* occur, but rarely.

NAUTO [2]

Nauto (part of Q. 15, foll. 98–99^{v}, l. 8) [3] wrote a full round hand, somewhat larger than the others and somewhat more irregular. It is not so easy to be sure of his habits as it is of those of the other scribes because there are only three pages and a fraction to judge from. No passage of semiuncials or of majuscules occurs. The change

[1] The history of the *n* in semiuncial writing and of the capital form in minuscule script is a matter of great importance awaiting careful investigation. It is probable that such a study would afford additional criteria for the dating of manuscripts.

[2] No. 76 in the list. Signatures on foll. 103^{v}, 111^{v}. See Table I. For a specimen, see lines 1-8 of Pl. 9.

[3] LIVY XXV 9, 9, *-enitida adiret...* 11, 10, *fecit animum*. The section of the Puteanus given to Nauto and Theogrimnus (foll. 186-257^{v}, Q. XXVIII-XXXVI) was copied in foll. 98-141 of the Tours manuscript, but a half of this was done by Theodegrimus. See above, p. 36, and Table II. The brief section done by Nauto is not determined by a gathering in the Puteanus, but ends there on fol. 188 in the middle of col. 2.

of hand at fol. 99^{v}, l. 9 is accompanied by a change to a much lighter brown ink, plain enough in the manuscript though not brought out in Pl. 9. The new hand might appear from Pl. 9 to be merely a smaller variety of the preceding. A careful study of both scripts convinces us that it is not [1].

Minuscules: The proportion of closed *a* to open is about 3 : 1; the double-*c* form, the two *c*'s sometimes joined at the top, occasionally occurs, as does the flat-topped semiuncial *a*. Uncial *d* occurs once or twice to the page. The *g* is well open in both parts; it approaches the developed *g* of Tours except that the turn in the middle is a bit too round and the lower bow protrudes too prominently to the right; it is occasionally joined by a cursive stroke with a succeeding *e*. In the ligature *ae*, which is very rare, the final stroke of the tail piece is oblique, not curved. Final *i longa* is often found in ligature with l. The capital *N* is decidedly rare, and the ligature *NT* occurs only where the saving of space is necessary. Both the ligatures *ra* and *re* occur, where the *r* with the left stroke descending below the line suggests the Merovingian form; in general the *r* has something of a tendency to drop below the line. The ligature *OR* occurs once. The letters *st* occur both in ligature and separately. End traits are simple; once all the letters in *-retur* are ligatured at the end of a line (Pl. 9). Abbreviations are restricted to the *m* stroke, the *e* between two points and with the stroke above for *est*, and *b* and *q* with semicolon for *-bus* and *-que*.

THEOGRIMNUS [2].

The writing (part of Q. 15–part of Q. 18, foll. 99^{v}–120^{v}, l. 19) [3] is clear but contains an excessive number of irregularities. In general effect the script is not unlike that of Nauto, but it is distinctly smaller and shows various differences in detail, as may be seen below [4]. No extended passage of semiuncials or of majuscules occurs.

Minuscules: The proportion of closed *a* to open is about 15 : 1 as against 3 : 1 in Nauto; the double-*c* form occurs very rarely; the flat-topped *a* of the semiuncial is also found. Uncial *d* is rather more frequent than with the other scribes. The ligature for *ae* is like that used by Nauto. The *g* has more variation than is usually the case,

[1] See above, pp. 37, 38, n. 1.

[2] Not in the lists. See above, p. 26. Signatures (Theogrīn or Theogrimn̄) on foll. 119^{v}, 127^{v}, 135^{v}, and most probably 141^{v}. As corrector (?) Hedelfredus appears. See Table I. For specimens, see the last 21 lines of Pl. 9 and the first 20 lines of Pl. 10.

[3] Livy XXV 11, 10, *ut nocte*:... 39, 14, *cum Hasdrubale* (= Puteanus fol. 223, col. 1 mid.). See Table II, and above, p. 43, n. 3.

[4] See also above, pp. 37, 38, n. 1.

being formed sometimes with a sharp angle and sometimes with a rounded curve in the middle where the lower stroke begins; both parts are well open; on the whole it is more slender than that of Nauto. The uncial form (the caudate *c*) occurs, but in every case seems to be a correction of the letter *c*. The ligature *ge* is used with the heavy cursive stroke descending to the lower part of the *e*. The occasional use of *i longa* is to be noted; it appears elongated above the line as an initial, dropped below the line in a curved stroke at the end and within a word after the letter *l*, as in *hasdrubalis*. The top stroke of *t* tends to curve up in a flourish; this trait is not obvious in the hand of Nauto. The ligature *NT* is employed not merely at the end of a line or of a word, but also within a word, as in *quinquagiNTa*. There is an indifferent use of *st* in ligature and separated. End traits are simple; the capital *N* occurs in a word divided at the end of a line, as in *priN|cipib;* (Pl. 9), and once at least a capital *R* occurs, as in *paR|te* (fol. 110^{v}). Fairly frequent is the tall *t*, almost like a capital, independently of its use in the *NT* ligature, thus: *eraT*, *aliquoT*, etc. This is not found in the work of Nauto. The ligature *us* is used at the ends of lines, and *-retur* is ligatured, but the first *r* is not, as in Nauto, of the cursive form. Abbreviations are simple: the *m* stroke, the colon and the semicolon after *b* and *q*, and the *e* with the two dots and the stroke above for *est*.

THEODEGRIMUS [1].

This hand (part of Q. 18, Q. 19–26, foll. 120^{v}, l.19–185^{v}) [2] has few alien traits but shows an unpleasant angularity which distinguishes it from all the other hands and of which the *g* described below is typical.

Capitals: There here are two instances of the *explicit-incipit*; both are in mixed majuscules, with the uncial element predominating. In the first, the word *explicit* is abbreviated *EXPL$\overline{C}$* (fol. 122), and in second, *EXPI$\overline{C}$* (Pl. 5, Fig. 2), whereas the Puteanus has in both places *EXPLI$\overline{C}$*. In the second, short lines were placed over the word *$\overline{C}$ON$\overline{D}$I$\overline{T}$A* and afterwards erased. Such strokes are used regularly in the Puteanus for ornament, standing both above and below words, red strokes being thus used for framing black script and black for red. In each case the whole heading oc-

[1] No. 65, Teutcrimus in the first list, Theotcrim in the second. Signatures on foll. 141^{v} (??), 149^{v}, 157^{v}, 165^{v}, 173^{v}, 179^{v}, 185^{v}. The corrector (?) is Bavo. See Table I. For specimens, see Pls. 5 (Figs. 1, 2), 10 (the last few lines), and 11.

[2] Livy XXV 39, 14, *decem milia*... XXVII 38, 6, *omnes cense-* (Puteanus 327^{v}, end of Q. XLV). The original assignment of Theodegrimus consisted of foll. 258-327, Q. XXXVII-XLV of the Puteanus (= foll. 142-185 of the Reginensis). See above, pp. 36 f., 43, n. 3. He also very possibly did Q. 32 (foll. 229-236). See below, p. 49.

cupies two lines, but the division of the text is not made in the same way. Thus, in the first heading, the *explicit* occupies the first line and the *incipit* the second, while in the second heading (Pl. 5, Fig. 2), the *explicit* runs over into the second line, necessitating the abbreviation IN̄C. Theodegrimus had two good opportunities to observe the rules for *explicit-incipit* of the regular style of Tours, had he known them. Both headings occur on the last two lines of a page. Knowledge of the rules would have led the scribe to end the page with the *explicit* and to begin the following page with the *incipit*, if necessary, leaving a blank space at the bottom of the first. Rather, in accordance with the fashion of the primitive script of Tours, the scribe abhors here and elsewhere a vacancy; thus, the last letter (*m*) of the last word on fol. 176 is given a long final stroke extending to the margin (romam_____|). This device is found in various early books of Tours, e. g., in the earliest of all, the Desnoyers Eugippius (Paris N.A. 1575, fol. 8). In the same way, the writer shows ignorance of the elaborateness of the regular style in his failure to distinguish sharply the use of the several sorts of writing and in his omission altogether of the semiuncials at the beginning of the text. There is, however, a suggestion of the style to be developed later in his use of small uncials for the first line of the text (foll. 122^{v}, 157^{v}). Minuscules follow immediately in the second line. We do not find in Theodegrimus, as in some of the other scribes, the employment of semiuncials in the abbreviation of proper names; he used a minuscule instead.

Minuscules: Theodegrimus made a more sparing use of the open *a* than did the other scribes, but there is a great deal of variation in the proportion. The figures are 15 : 1 on fol. 121, 28 : 1 on fol. 127, 8 : 1 on fol. 147, etc. Two ligatures for *ae* occur: one in which the uniting letters are of equal size, and one in which the *a* becomes an appendage to *e*; it is usually a simple loop in which the final upward stroke is curved and sometimes fails to join the *e* at its conclusion. Uncial *d* is perhaps a little less frequent than with the other scribes. The *e* with a high stroke rising above the line, slanting toward the right, and ending in a sharp hook, is used as a correction [1]. The *g* differs most decidedly from that of all the other scribes except Landemarus I (see below), and is therefore an almost certain test of the script. The letter is short and has a very broad bottom; at the extreme right the lower stroke turns with a decidedly sharp angle toward the left and proceeds in an almost perfectly horizontal line to the quick turn up at the end. The rare uncial form seems to be always a correction, as in the other scripts of this book. The *i longa* occurs now and then as an initial or a final. Capital *N* is very common, but the ligature with *T* is employed only when effort is made to save space. The *r* is regular. It is possible to find the ligatures *ra*

[1] This form of *e*, at first used as a correction, was later developed into a regular style.

and *re*, but they are extremely rare, and when they do occur they are formed much more nearly with the ordinary *r* than is the case in other parts of the manuscript. The ligature *rt* does not occur, and the ligature *st* is extremely rare. End traits are simple: there is at least one instance of the ligature *OR* (fol. 182), and there is an occasional use of the ligature *us*. Abbreviations are rare (*b* and *q* with the semicolon) except when the scribe is crowded for space, as at the conclusion of the passage which he finished for Theogrimnus. There he used every possible device for saving space: the ligatures for *ae* (the *e* added to the *a* and the *e* with the loop attached), for *et* (initial, middle, and final), for *NT* (final and middle), and the following abbreviations: *cu* with top stroke for *cum*, *p* with top stroke for *prae*, *qb*; with superscript *i* for *quibus*, *NT* ligatured with superscript ' for *-ntur*, and the *m* stroke. The employment of *t* with the superscript *comma* instead of a figure *2* for *tur* is an excellent sign of early date. Elsewhere this scribe has *p* with the stroke curving below to the left for *pro*. Plainly these scribes knew a system of abbreviations which they refused to employ except in case of need. They were copying the original exactly in order to cover the precise amount assigned them, which had been calculated to agree with definite sections of the Puteanus. In this case, therefore, the ultimate reason for the avoidance of abbreviations was the need of copying quickly and neatly at the same time.

On fol. 168^{v} an important correction appears. *Sed*, originally omitted, is written above between *turba* and *ut* (Livy XXVII 9), and *haesere omnia tela*, omitted in the text, is supplied in the margin. The hand is distinctly early. Could it be that of Bavo?

ANSOALDUS [1].

This hand (Q. 27-31, foll. 186-228^{v}) [2] is somewhat irregular and has a wild Merovingian look where the scribe is pressed for space. It is quite small and compact.

[1] No. 43 in the list. Signatures on foll. 193^{v}, 201^{v}, 209^{v}, 217^{v}, 228^{v}. The corrector (?) is Teutlaicus. See Table I. For specimens, see Pl. 12; also fol. 201^{v} in Chatelain, *Paléog. des class. lat.* (1895), Pl. CXVII. According to Chatelain (*Rev. de Phil., op. cit.*, p. 81), " Ansoaldus a l'écriture plus fine, et Landemarus, au contraire une main plus lourde que les autres copistes ". " Fine " can hardly mean delicate, here.

[2] Livy XXVII 38, 6, *-rent primo...* XXVIII 35, 7, *quod pleni-*. This equals Puteanus foll. 328-399^{v}, Q. XLVI-LIII. This section really includes part of the text following 35, 7, as there is a transposition in the Puteanus. Chatelain remarks (*Rev. de Phil.*, XIV, p. 84) that Q. LIIII and LV ought really to have been numbered LII and LIII. The case is not so simple as that. The fault lies not with the Puteanus but with the archetype. In the latter manuscript a gathering (= A) of a bit over twenty-two Tauchnitz pages (XXVIII 22, 14, *primorum...* 37, 9, *auxiliarum inde*) was slipped in after the following quire (= B), which contained a bit over twenty-one Tauchnitz pages (XXVIII 37, 9, *conscriptis missisque...* XXIX 1, 24, *ab omni imperio*), together with a heading for Book XXIX. Headings in the Puteanus may take up nearly a whole column: see the reproductions in Delisle, *Album Paléographique* (1887), Pl. 4. Quire B begins in the Puteanus on fol. 368^{v}, col. 2 and ends on fol. 385^{v}, col. 1. Quire A immediately succeeds and ends on fol. 402, col. 2. There are faint signs for transposition on fol. 368^{v}, faded red signs on foll. 385^{v}, and other signs on fol. 402. See Table II.

Capitals: The heading (fol. 194) is written in nearly regular uncials. The *explicit* occupies one line and the *incipit* the next; the only abbreviation is *LIB* in the first line. The first line of the text following is written in uncials, except that the letter *b* appears as a minuscule with top crossed and *M* as a rustic capital. In the second line of the text minuscules are used.

Minuscules: There is a decided preference for the open *a*, the figures varying from 4:1 to 10:9. The *b* is sometimes open at the top of the loop. There is an occasional use of the ligature *ct*. Uncial *d* occurs once or twice to the page. The *e* has a more pronounced tendency to rise above the neighboring letters than in the other hands. The *f* is decidedly heavier and shows a tendency to separate the initial downward stroke from the concluding upward stroke. The *g* stands unusually perpendicular; it is often closed at the top, but always open at the bottom; there is often a break at the very top, showing distinctly that the letter was formed by making a *c* first and then beginning the stroke on the right (after lifting the pen) at the very top of the letter; the letter is distinctly individual. The semiuncial form, with horizontal top, occurs once or twice in the first word of a sentence, revealing a semiuncial trait which is not uncommon in other letters. It is clear that these scribes knew the semiuncial style. The *i longa* is occasionally employed as an initial, a middle (as in *statio*), and a final letter. Capital *N* seems to be much rarer than with the other scribes; the ligature *NT* appears only at the ends of lines. Semiuncial forms of *m* and *n* occur. The *p* is occasionally open at the bottom. The ligatures *ra* and *re* occur but are not common. The ligature *st* is invariable, the letters not appearing separated at all, unless the *s* stands at the end of a line. In the ligature of *e* and *t* the top strokes of both letters show a distinct flourish. End traits are slightly more striking than in the other hands: the ligatures *li* (with *i longa*), *NT*, *OR*, *ti* (where the *i longa* is often almost a semicircle curving under the *t*), and *us* are frequent; an elongated capital *S* appears rarely after *e* and *o* (e*f*, o*f*). Finally we may note that this scribe, like some of the others, uses a long final stroke to fill the space left between the last letter and the margin (as placuit——|). Semiuncial *m* is a feature, as in the writing of Fredeg(audus); capital *S* occurs. Abbreviations are rather rare: the semicolon, and sometimes a single point, with *b* and *q*, $N\dot{T}$ for *-ntur*, as at the conclusion of the passage by Theodegrimus, *p* with the horizontal stroke through the tail for *per*, and *quicq* with horizontal stroke through the tail of the final *q* for *quicquam*; *R* with the last stroke crossed stands for *rum*; the *m* stroke stands clearly to the right of the vowel over which it is placed (a^{-}) – this is an ancient practice.

Evidences of the corrector (Teutlaicus?) appear on foll. 201 and 202.

LANDEMARUS I [1].

The hand in this gathering (Q. 32, foll. 229–236^{v}) [2] may well be that of Theodegrimus (see above, p. 38). It is rather firm and regular. No extended passage of capitals or of semiuncials occurs.

Minuscules: Open *a* is avoided at first but later becomes more and more frequent, evidently used to fill space. The ligature for *ae* is used in which the *e* is added to the *a*; that formed from *e* seems to occur only as a correction. Uncial *d* does not occur. The ligature *et* is very common. The *g* is angular and altogether answers to the description of the *g* used by Theodegrimus; it has the same sharp turn in its final stroke to the left, the same horizontal line at the bottom, and the same turn up at the end. Capital *N* is used freely, as many as sixteen to a page occurring, and the ligature *NT* is not infrequent. The ligatures *ct*, *rt*, *st* are strictly avoided. The *s* often drops below the line. End traits are very few: the *i longa* after *l* is almost regular, and occasionally the ligature *re* is employed. The abbreviations are the semicolon with *b* and *q*, the *m* stroke with *a*, *e*, *u*, often written slightly to the right of the vowel, and the curving stroke through the tail of *p* for *pro*. These traits are all characteristic of the hand of Theodegrimus.

LANDEMARUS II [3].

The script of Landemarus II (Q. 33–35, foll. 237–257) [4] presents a very regular appearance and in this approached rather nearly the developed script of Tours.

Capitals: The one heading in this section is written consistently in well formed uncials. It occupies three lines, the first containing the title, the second the *explicit* (abbreviated *EXPLICT*, instead of *EXPLĪC* as in the Puteanus), and the third the *incipit*. The text follows at once in minuscules except the first two letters (an uncial and a semiuncial) in abbreviation for a praenomen (C$\bar{n}$).

Minuscules: The closed and the open *a* occur in a proportion varying from 3 : 1 to 2 : 1. The *b* is occasionally open. Uncial *d* is not used except as an end trait.

[1] No. 63, Landamarus, in the list. See Table I. For specimens of script and signatures of Landemarus and Ivinus, see Pl. 13 (fol. 236^{v}).

[2] Livy XXVIII 35, 7, *-us nitidiusque*... XXIX 11, 13, *marcellus dedicavit*. See Table II.

[3] No. 63, Landamarus in the list. Signatures on foll. 242^{v}, 250^{v}. Fol. 258 is lost. See Table I. For specimens of script and signature, see Pl. 14.

[4] Livy XXIX 11, 13, *septumo decumo*... XXX 5, 7, *deinceps continua amplexus*. On the Puteanus, see Table II. On the assignment of Landemarus and the concluding quires of the Reginensis, see above, p. 38.

The same is true also of capital *N* and the ligature *NT*. The *e* appears very frequently in uncial form. This is due to the fact that the letter was formed with three separate strokes, of which the curve at the top was not always continued far enough to meet the cross stroke[1]. The ligature for *et* is not used except as a part of a word. The *g* is rather long and slender and altogether the most open in the manuscript; its top tends to rise rather abnormally. The uncial *g* occurs only as a correction of *c*. The *i longa* is not used. The letters *m* and *n* have a decidedly semiuncial character; the last stroke of the *m* turns in to the left much more frequently than not, a test folio giving the proportion of 4:1. The semiuncial *n* is less common. The ligature *ra* is very rare. The ligature *st* occurs five or six times to the page. The *s* sometimes drops below the line. End traits are: a rare occurrence of uncial *d*, capital *N*, and the ligature *NT*; a little more common is the ligature *us*. Abbreviations are limited to the semicolon with *b* and *q*, the *m* stroke, which is extremely rare except at the end of lines, *p* with the stroke above for *prae*, and an occasional *p* with the curving stroke through the tail for *pro*.

The corrector shows his presence, in a hand apparently contemporary, e. g., on fol. 237^{v}. The correction on fol. 242^{v} (Pl. 14) is by the text hand.

Such, then is the work of the scribes of the Reginensis. Shipley [2] is surprised to find, even allowing for the special haste required, that the effect of Alcuin's reforms is so little in evidence. The scribes commit extraordinary blunders, they have no fixed principles in selecting from the variants of the Puteanus, and no orthographical standards, despite Alcuin's treatise on this very matter. We may add that punctuation almost never occurs except after the most obvious pauses [3]. The difficulty vanishes if we assign the book to the period immediately before Alcuin. The critical principles of the scribes correspond to their script. The latter reveals crudities and irregularities that are not to be found in such writing as that of the Bamberg Bible. In contrast with the uniformity later achieved, the different hands when carefully examined show striking divergences. Still, as we turn the pages, we note a general effect of sameness, an effort to train individual scribes after a general method. We see in the germ certain elements out of which was formed the perfect style. There is, for example, the employment, however crude and uncertain, of the various scripts at the beginning of a book. There is also, as in the later school, the use of the semiuncial, though the lettering here is slipshod and inconsistent. In the minuscules there is already an avoidance of cursive traits, though a good

[1] This method of forming the e seems to have been used by the other scribes also, but nowhere else can the three strokes be distinguished so clearly. It is to be found also in other manuscripts of the period, as in the Urbinas 532 of Boethius. A more careful investigation into the history of the Carolingian e would be profitable. See note on p. 46.

[2] *Op. cit.*, pp. 194, 414 f.

[3] In this matter the scribes had nothing to guide them in the Puteanus.

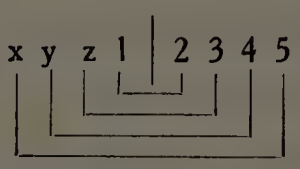
many still remain. The rule of the scriptorium of Tours, as contrasted with that of Aix, was, as we have said [1], to banish, not to embellish, cursive traits, and to keep the styles, majuscule, semiuncial, minuscule, distinct.

This principle, towards which the scribes of Tours had been groping, was not clearly apprehended, if our arguments are valid, until the abbacy of Alcuin. Before his time, a matter that must be reserved for later treatment, the influence of the Insular style had been strong at Tours. If it was in force when Alcuin arrived, fresh from his achievements in the scriptorium of Aix, he would rather have discouraged than cultivated its use. Instead, he would find in such a book as the Livy the elements from which the regular style was soon to grow. We may give him the credit, not for the invention of the script of Tours, any more than of that of Aix, but for an important share in the development of both at critical moments in their course. At St. Martin's, then, before Alcuin, mixtures and crudities; under his guidance, system and clarity. From this germ there grew, despite interesting and inevitable divergences from the norm, one of the most beautiful scripts in the history of writing, the perfected style of the mid-century.

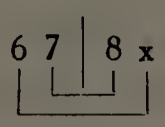
[1] See above, p. 22.

TABLE I

DESCRIPTION OF THE GATHERINGS IN THE REGINENSIS

No.[1] 1 = V (foll. 1-5). 

Fol. 5ᵛ, in the hand of the director, *gyslar.* The word is very indistinct and was probably erased. The gathering consisted originally of eight folios, of which the first three have been cut out, as can be determined by the strips of parchment still visible at the beginning and by the thread seen between foll. 1 and 2.

No. 2 = VI (foll. 6-8). 

Fol. 6, in the hand of the director, *gyslar VI.* The gathering was probably made up of four folios, the last one of which was found to be unnecessary (see p. 34, n. 4).

No. 3 = VII (foll. 9-16).
Fol. 16ᵛ, in the hand of the director, *aldo.*

No. 4 = VIII (foll. 17-24).
Fol. 24ᵛ, in the hand of the director, *aldo*, mostly cut away.

No. 5 = VIIII (foll. 25-32).
Fol. 32ᵛ, in the hand of the director, *aldo.* There are also traces of what seems to be the original quire mark.

No. 6 = X (foll. 33-40).
Fol. 40ᵛ, in the hand of the director, *aldo.* Also, apparently, *q x* (very indistinct).

No. 7 = XI (foll. 41-48).
Fol. 48ᵛ, in the hand of the director, *aldo* (very indistinct).

No. 8 = XII (foll. 49-52).
Fol. 52ᵛ, in the hand of the director, *aldo.*

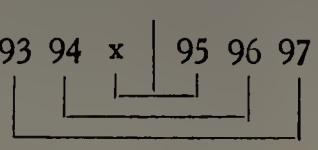
No. 9 = XIII (foll. 53-60).
Fol. 60ᵛ, in the hand of the director, *fredeḡ.*

No. 10 = XIIII (foll. 61-68).
Fol. 68ᵛ, in the hand of the director, *fredeḡ*, partly erased. Also, *ṗ Ragennarḋ* in another early hand (= *per Ragennardum*? Wölfflin, *op. cit.*, p. 187, gives *ro* instead of *per*).

No. 11 = XV (foll. 69-76).
Fol. 76ᵛ, in the hand of the director, *fredeḡ.* Also, in an early hand different from this or those on fol. 68ᵛ, *Uualeramnus.*

No. 12 = XVI (foll. 77-84).
Fol. 84ᵛ, in the hand of the director, *fredeḡ XVI.*

No. 13 = XVII (foll. 85-92).
Fol. 92ᵛ, in the hand of the director, *fredeḡ* (partly erased) *XVII.*

No. 14 = XVIII (foll. 93-97). 

[1] The Arabic numbers refer to the present quires, the Roman to the original.

Fol. 93 shows traces of some word (a name?) erased; fol. 97v, in the hand of the director, *fredeḡ*. The gathering was originally made up of six folios, one of which was found to be unnecessary. Possibly it consisted at first of only four folios, and the scribe finding that he had not space enough left for the text inserted an extra one (fol. 95).

No. 15 = XVIIII (foll. 98-103).
Fol. 103v, in the hand of the director, *nauto* (almost cut away); also, *XVIIII.*

No. 16 = XX (foll. 104-111).
Fol. 111v, in the hand of the director, *nauto XX.*

No. 17 = XXI (foll. 112-119).
Fol. 112, in an early hand, *hedelfredā*; fol. 119v, in the hand of the director, *theogrīn̄ XXI.*

No. 18 = XXII (foll. 120-127).
Fol. 127v, in the hand of the director, *theogrimn̄.* Also, nearly cut away, *XXII.*

No. 19 = XXIII (foll. 128-135).
Fol. 135v, in the hand of the director, *theogrī* (nearly erased). There are also traces of something else erased.

No. 20 = XXIIII (foll. 136-141).
Fol. 141v, in the hand, almost entirely erased, of the director, *theogrī* (?). Possibly, but by no means so probably, *theodegrīm̄* might have stood here. Shipley, *op. cit.*, p. 11, decides for the former. That the gatherings originally assigned to Theodegrimus begin with fol. 142 and not before, is clear from the original quire-number of the director. See fol. 165v ff., and above p. 37.

No. 21 = XXV (foll. 142-149).
Fol. 149, in the hand of the director, *theodegri.* There are traces of something else erased.

No. 22 = XXVI (foll. 150-157).
Fol. 157v, in the hand of the director, *theodegrī* (partly erased). Also, nearly erased, *bavonē.* There are traces of something else erased.

No. 23 = XXVII (foll. 158-165).
Fol. 165v, in the hand of the director, *theodegrī XXVII.* Also c̄, and at the left of the name, traces of the figure *III.*

No. 24 = XXVIII (foll. 166-173).
Fol. 173v, in the hand of the director, *theodegrī* (partly erased). Also *IIII, XXVIII* (almost cut away), something else erased, and *bavonē* (*nē* smirched) with some erasure preceding. Also d̄ nearly erased.

No. 25 = XXVIIII (foll. 174-179).
Fol. 179v, in the hand of the director, *theodegrī* (slightly erased). Also ⌈ē and some word (*bavonē*?) almost entirely erased. There is also another erasure.

No. 26 = XXX (foll. 180-185).
Fol. 185v, in the hand of the director, *theodegrī.* Also *VI* and *XXX.*

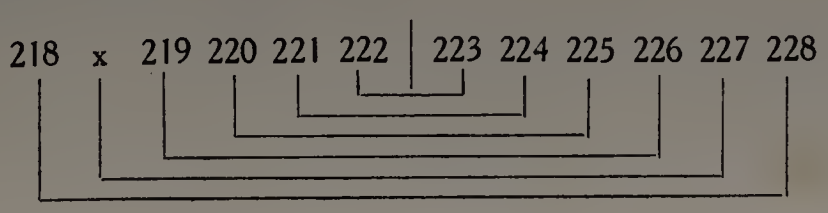
No. 27 = XXXI (foll. 186-193).
Fol. 193v, in the hand of the director, *ansoalđ.*

No. 28 = XXXII (foll. 194-201).
Fol. 201v, in the hand of the director, *ansoalđ.* Also q̄ *II* and *XXXII.* In another early hand, *teutlaicus.*

No. 29 = XXXIII (foll. 202-209).
Fol. 209v, in the hand of the director, *ansoalđ.* Also, partly cut away, *XXXIII.*

No. 30 = XXXIIII (foll. 210-217).
Fol. 217v, in the hand of the director, *ansoalđ.* Also q̄ *IIII.*

No. 31 = XXXV (foll. 218-228).



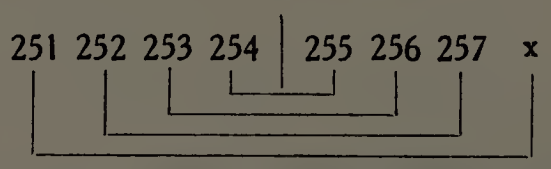
Fol. 228^{v}, in the hand of the director, *ansoalđ*. Also *q̄ V*. Probably the gathering originally consisted of ten folios; as the scribe approached the end, finding that he had not parchment enough, he inserted an extra folio (227).

No. 32 = XXXVI (foll. 229-236).
Fol. 236^{v}, in the hand of the director, *landemarus* (partly erased). Also *XXXVI*. Also *IUINUS*, and some word (or name in *us*?) almost entirely erased.

No. 33 = XXXVII (foll. 237-242).
Fol. 242^{v}, in the hand of the director, *landemarus*. Also *XXXVII*.

No. 34 = XXXVIII (foll. 243-250).
Fol. 250^{v}, in the hand of the director, *landemarus*. Also, partly cut away, *XXXVIII*.

No. 35 = XXXVIIII (foll. 251-257).



The gathering consisted originally of eight folios, of which the last has disappeared.

TABLE II.

ANALYSIS OF THE WORK OF THE INDIVIDUAL SCRIBES AND CORRECTORS.

	LIVY	PUTEANUS		
		ORIGINALLY	NOW	ORIGI
I	XXI 1, 1, In parte operis ..... XXII 21, 2, praeterquam quod. 95 Tauchnitz pages.	Q. I-VIIII (9 gatherings, 72 foll.).	Q. I, II, IV, six foll. of III and fol. 1 of V are lacking. The remainder = fol. 1 (XXI 20, 8 –ius avidissima gens...)–41.	Q. I-VI. I foll. (C foll.).
II	XXII 21, 2, ipsorum Hispanorum ... XXIII 35, 1, cum post Can-. 96 Tauchnitz pages.	Q. X-XVIII (9 gatherings, 71 foll.).	Foll. 42-112.	Q. VII-X
III	XXIII 35, 1 –nensem pugnam .... XXV 9, 9, alia portam Tem–. 95 Tauchnitz pages.	Q. XVIIII-XXVII (9 gatherings, 73 foll.).	Foll. 113-185.	Q. XIII - foll.).
IV	XXV 9, 10, –enitida adiret.... XXVI 28, 5, Galliae et le–. 93 Tauchnitz pages.	Q. XXVIII-XXXVI (9 gatherings, 72 foll.).	Foll. 186-257.	Q. XVIII foll.).
V	XXVI 28, 5, –gionibus .... XXVII 38, 6, cum omnes cense–. 91 Tauchnitz pages.	Q. XXXVII-XLV (9 gatherings, 70 foll.).	Foll. 258-327.	Q. XXV foll.).
VI	XXVII 38, 6 –rent primo.... XXVIII 22, 14, pertinax caede [37, 9, conscriptis missisque..... XXIX 1, 24, ab omni imperio] XXVIII 22, 14, primorum insequentis... 35, 7, quod pleni–. 93 Tauchnitz pages.	Q. XLVI - LIIII (9 gatherings, 72 foll.).	Foll. 328-399.	Q. XXX (43 fol
VII	XXVIII 35, 7, –us nitidiusque ... 37, 9, auxiliarium inde [XXIX 1, 24, externo soluta.... XXX 30, 14 consul creatus cum] XXX 37, 4, neque domarent alios.... 38, 2, indutiaeque Carthagi–. 96 Tauchnitz pages.	Q. LV-LXIII + one leaf of LXV [1] (9 gatherings, 70 foll.).	Foll. 400-470.	Q. XXXV [XL-X foll.).

The original Puteanus contained certainly Q. LXIIII and probably the rest of Q. LXV, whi Book XXX. The scribes of the Reginensis apparently found nothing more at the end of the Puteanus gatherings remained, it seems likely that the director would have made up three of the seven sect the others. In that case, the book may have been finished by some other scribe than Landemarus

[1] For the romantic history of this leaf, which proves that the home of the manuscript was Corbie, see DELISLE, *Cabin*

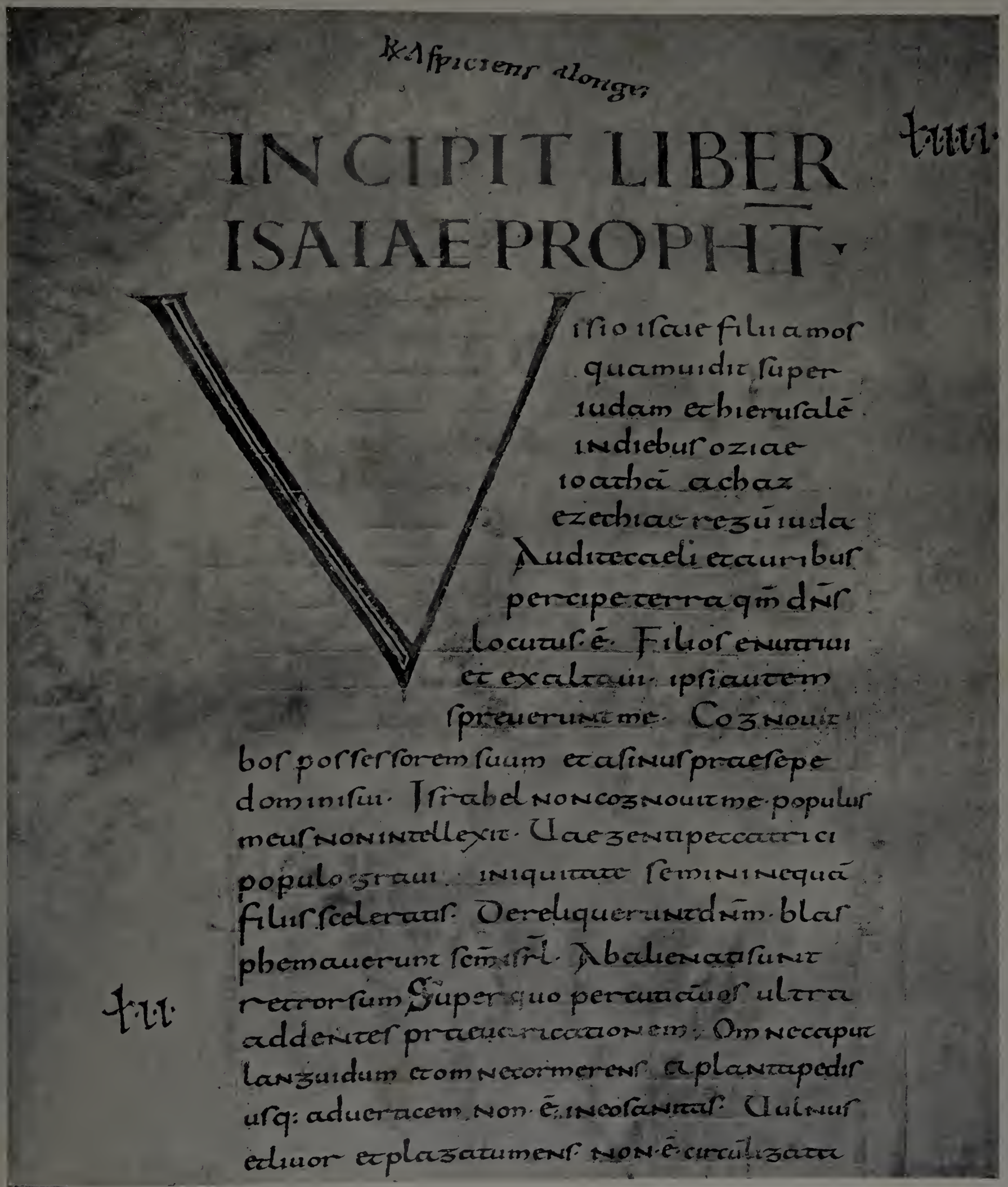
[2] Calculated on the basis of pages of the Tauchnitz edition.

REGINENSIS

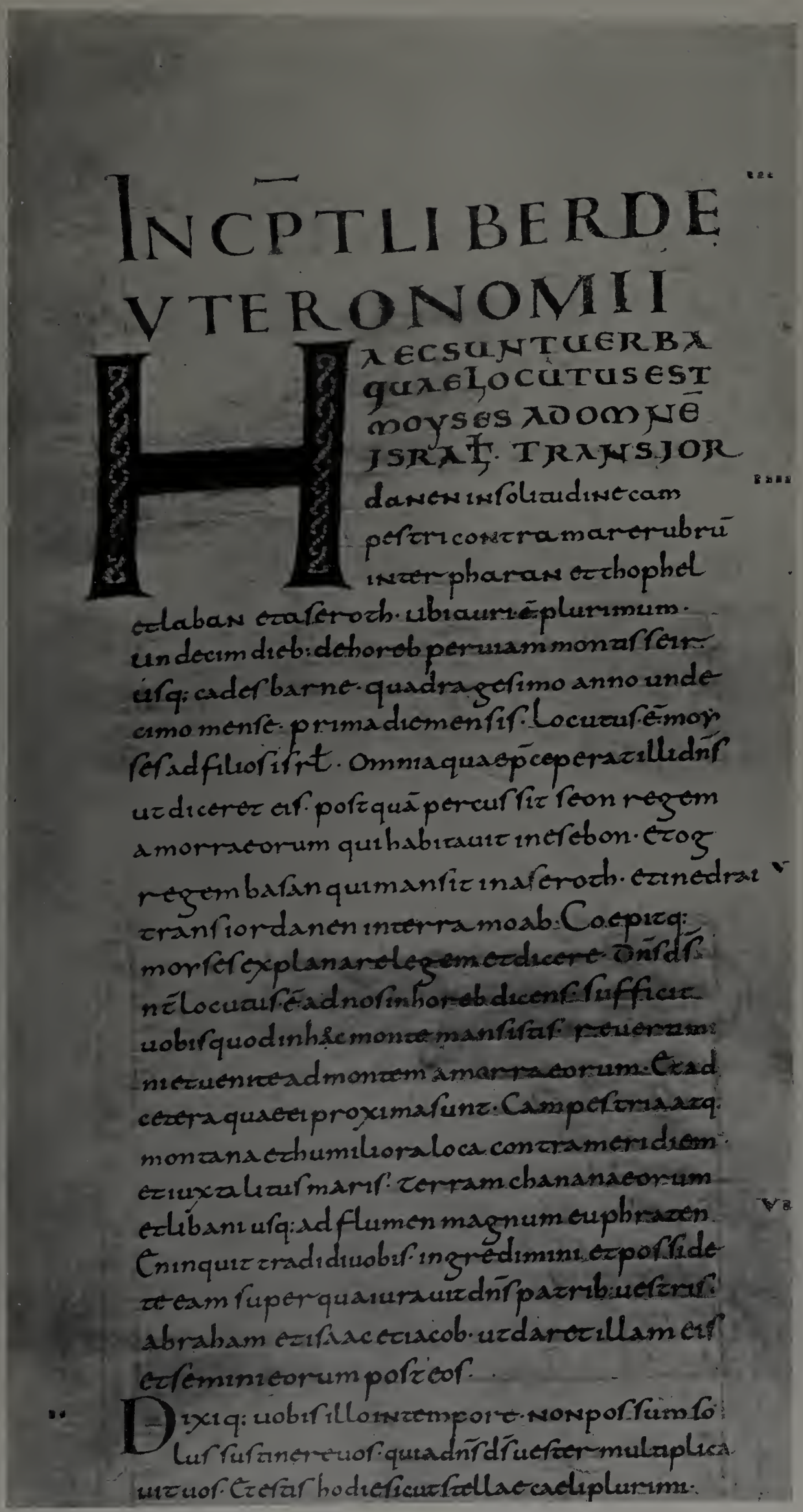
NOW	WRITING		
	Assigned to	*Done by*	*Corrected (?) by*
Q. I-IV lost. Remainder Q. 1-2 (foll. 1-8). Begins Livy XXII 6. 5, velut caeci evadunt.	Gyslarus, Q. V (1), VI (2), and perhaps all.	Gyslarus	
Q. 3-8 (foll. 9-52).	Aldo	Aldo	
Q. 9-14 (foll. 53-97).	Fredeg̃	Fredeg̃	Ragennardus, Waleramnus.
Q. 15-20 (foll. 98-141).	Nauto, Q. XVIIII (15), XX (16), (foll. 98 - 111v). Theogrimnus, Q. XXI (17) -XXIIII (20), foll. 112-141v).	Nauto, part of Q. 15 (foll. 98-99v) = XXV 9, 9, -enitida adiret.... 11, 10, fecit animum (Puteanus, fol. 188 col. 2, med.). Theogrimnus, Q. 16, 17, and parts of Q. 15 and 18 (foll. 112- 120v) = XXV 11, 10, ut nocte... 39, 14, cum Hasdrubale (Puteanus foll. 223 col. 1, mid.). Theodegrimus, Q. 19, 20, and part of Q. 18 (foll.120v-141v) = XXV 39, 14, decem milia.... XXVI 28, 5, Galliae et le–.	Hedelfredus
Q. 21-26 (foll. 142-185).	Theodegrimus. Quires marked [a], [b], c, d, e, [f], and [I], [II], III, IIII, [V], VI.	Theodegrimus	Bavo
Q. 27-31 (foll. 186-228).	Ansoaldus. Quires marked [q̄ I], [q̄ II], [q̄ III], q̄ IIII, q̄ V.	Ansoaldus	Teutlaicus
Q. 32-35 (last fol. missing) (foll. 229-257). [XXX 5, 7, continua amplexus] = 29 foll.	Landemarus.	Landemarus I (= Theodegrimus?), Q. XXXVI (32) (foll. 229-236) = XXVIII 35, 7, –us nitidiusque... XXIX 11, 13, Marcellus dedicavit. Landemarus II, Q. XXXVII (33) – XXXIX (35) (foll. 237-257) = XXIX 11, 13, septumo decimo.... XXX 5, 7, deinceps continua amplexus.	Ivinus

culation based on pages of the Tauchnitz edition shows, would just about accommodate the rest of The present amount exactly rounds out a section of the usual size, nine gatherings. If two more instead of nine gatherings. It is of course possible after all that the last section was longer than Quires XL and XLI may have been done by another hand.

its, II, 135.


Aspicient alongu
INCIPIT LIBER
ISAIAE PROPHT
tuu
Visio isaie filii amos
quam uidit super
iudam et hierusalē
in diebus oziae
ioathā achaz
ezechiae regū iuda
Audite caeli et auribus
percipe terra qm dns
locutus ē. Filios enutriui
et exaltaui ipsi autem
spreuerunt me. Cognouit
bos possessorem suum et asinus praesepe
domini sui. Israel non cognouit me. populus
meus non intellexit. Uae genti peccatrici
populo graui iniquitate semini nequā
filii sceleratī. Dereliquerunt dnm. blas
phemauerunt sanctū. Abalienati sunt
retrorsum. Super quo percutiā uos ultra
addentes praeuaricationem. Omne caput
languidum et omne cor merens. A planta pedis
usq; aduertacem non ē in eo sanitas. Uulnus
et liuor et plaga tumens. non ē circūligata
tvi
tvii

Cod. Lat. Bernensis 3, fol. 115ᵛ.



INCPT LIBER DE
VTERONOMII

HAEC SUNT VERBA
quae locutus est
moyses ad omnē
israēl. trans ior
danen in solitudine cam
pestri contra mare rubrū
inter pharan et thophel
et laban et aseroth. ubi aurū ē plurimum.
un decim dieb: de horeb per montem seir
usq; cades barne. quadragesimo anno unde
cimo mense. prima die mensis. locutus ē moy
ses ad filios isrl. omnia quae p̄ceperat illi dn̄s
ut diceret eis. post quā percussit seon regem
amorraeorum qui habitauit in esebon. et og
regem basan qui mansit in aseroth. et in edrai
trans iordanen in terra moab. Coepitq;
mo yses explanare legem et dicere. dn̄s d̄s
n̄ locutus ē ad nos in horeb dicens. sufficit
uobis quod in hoc monte mansistis. reuertimi
ni et uenite ad montem amorraeorum. et ad
cetera quae ei proxima sunt. Campestria atq.
montana et humiliora loca contra meridiem
et iuxta litus maris. terram chananaeorum
et libani usq; ad flumen magnum euphraten
Ecce inquit tradidi uobis. ingrēdimini et possi de
te eam super qua iurauit dn̄s patribus uestris
abraham et isaac et iacob. ut daret illam eis
et semini eorum post eos.

DIXIq; uobis illo in tempore. non possum so
lus sustinere uos. quia dn̄s d̄s uester multiplica
uit uos. et ecce hodie sicut stellae caeli plurimi.

Cod. Lat. Bambergensis A, 1, 5.

to autem maiore adcidēs superioribus cladibus fuerit uel de exer-
citu dictatorum quae eodem die firma steterat tum laborare coe-
pit nullo profecto cladi adere quicquod speraverant de imperio
defecere autem cod poenos hi populi: Lucani Bruttii omnes
apulorum praeter salentinos praeterpentinos Bruttii omnes Lucani prae-
ter hos: Hirpini: & Graecorum omnes fere oræ Tarentini metapon
tini crotoniensis locri que exhis sidpini omnes Gallinetacinenses
cidēs defectionesq; suorum moverunt ut pacis usquicum men
to apud romanos fierē Neque ante consules romam cū uentū
Nec post quicquas redit renouciuit q; memoriam acceptae cladis
quo intempore ipso cū eo magno animo auctas fuit ut consuli
extanta cladi de cuius ipse causa maxima fuisset & redeunti & obuiā
tum frequenter ab omnibus ordinibus sit & gratiae actae quod
dere p̄ non desperasset & qui carthaginiensiū ductor fuisset & nihil
recusandum supplicii fore. Titi Liuii Abūrbi conditi Liē. xxii. expēt.

INCIPIT LIBER VIGESIMUS TERTIUS.

Haec hannibal post cannensem pugnam capta ac direpta con
sulari exapulia in samnium movet acciaus in hyrpino sa sta
to pollicentes se compsanū tradturū Compsanus erat trebius nobilis inter
suos sed premebat eum compsinorū factio familiae per gratiā romano
rum potentis post famam cannensis pugnae uolgatāque trebi sermoni
bus; cū uentū hannibalis cum compsam urbem excessisset sine cessamine

Cod. Lat. Vaticanus Reginensis 762, fol. 32.

signis conlatis eadem fortuna utriusque parata pugnatum
supra cxiii hostium caesa supraque capta cum signis duo
bus. et xl. eviiij. elephanta tum uero omnes propemodum
nicae populi romani defecerunt modo quemadmodum
eae res gestae in hispania quam in italia res gestae

TITI LIUI ABVRBE CONDITA

EXPLICIT LIBER. XXIIIJ.

INCIPIT LIBER XXIIIJ.

Ut ex campania in bruttios redtum est hannoad
uersoribus et ducabus brutiis graecas urbes tempta
ut eo facilius in societatem cum eis romana quod bruttios
quos et oderant et metuebant carthaginiensium paratis
factos cernebant regium primum temptatum est dieque
aliquot ibi nequiquam admota interim locrenses fru

Cod. Lat. Vaticanus Reginensis 762, fol. 62.

fibulaje quum que ornatum donatiuſ ſiſ que proſequi quo
acuellal e quibuſ dimiſit Debello inde conſilium hcc
bitum et auctoribuſ quibuſ dam ut con fecti haſdrubcc
lem conſe querettur anceps idratuſ nemago atque haſ
drabal cum eo ingerent copiaſ praeſidio tantum a din
ſi dendum prrenaeo miſſo ipſo rel quum aeſtatuſ recipi
endiſ inſidem hiſpaniae populuſ aſſumpſit paucis poſt proe
lium factum adbaeculcum diebuſ cum ſcipio redien ſia
terra conem ſaltu caſtulo nenſi exceſſiſſel haſdrubal gis
gonis fil et mago imperatoris exulteriore hiſpanica

bauo

Fig. 1. Cod. Lat. Vaticanus Reginensis 762, fol. 173.

ſuiſſe atubi adpropinquarel reſ duceſtriſ
uictoreſ hoſtium exercituſ audiſſet occur
ſuram ei exemplo domeſticorum funerum
memoricum haec in uulgus iactabant aud
quaquam ipſi ignari quantum ſibi cc dom
nicae uirium carthagine amiſſa deceſſiſſel

TITI LIB ABURBE CON DITA LIB
XXVI EXPIC INC LIB XXVIII

Fig. 2. Cod. Lat. Vaticanus Reginensis 762, fol. 157.

Lib xxij

iuuenum audientium saepe ferocter contionantem magistra
tum equitum progressus primo exploratoris modo ut ex tuto
speculay & ur hostem urbis uagos passim per uicos numidas per
occasionem & cum paucos occidit ex templo occupatus cestumine
est animus excideruntque praecepta dictatoris qui quem tu
to posse & progressum prius recipere sese iusserat quam in cons
pectu hostium ueniss & numidae alii atq: alii occurscanter refu
gienter que ad castra propere ipsum cum fugatione equorum
atq: hominum pertrahere. Inde carthalo penes quem summa
equestris imperii erat concitatas equis inuectus cum prius quā
adconiectum teli ueniss & auertat sse & hostat quinq: ferme milia
continenta cursu secutus est fugientat mancinus postquam nec
hostem desistere esse qui nec spem uidit effugiendi ex se cohostatus
suos in proelium redit omni parte uirium inparitatq: ipse & de
lecta equitum circumuenta occidunt ur celeri effuso rursus
cursu. Calles primum inde propere inuisi callibus ad dictato
rem perfugerunt eo fosted die minucius se coniunxerat fabio
missus ad firmandum praesidium saltū qui super tarracinā in
astur coactus fauces immin & marinae admodum poenus
appiae limite peruenire et in agrum romanum posse & con
iunctas exercitus dictator ac magr equitum castra in uiam
deferunt quam hannibal ducturus erat duo inde milia hostes
aberant postero die poeni quot uicae inter bina castra erat
agmine compleuere cum romani subipso constat sent uallo
aut dubie. Equo re loco succedit tamen poenus cum expedi
tas equitabusque ad lacessendum hostem captum poeni & procu
rando recipiendoque se se pugnauere restat ut suo loco roma
na acies lenta pugna & ex dictatoris magis quam hannibalis
fuit uoluntate. cc. ab romanis Dcc hostium cecidere inclusus

Gyrlarus VI

Cod. Lat. Vaticanus Reginensis 762, fol. 6: *Script of Gyslarus, with signature.*

T L

simul aduisendam expropinquo quaerinboisatque insubrib;
gererentur adpineum quoque regem inillyrios legati miss
si adstapendium cuius dies exierat poscendū aut sidiem
proferre uellet obsides accipiendos adeo et sibellum in
gens in ceruicibus erat nullius quam terrarum reicura
romanos nelonginqua quidem et fugiebat inregionem
etiam uenit aedem concordiae quam persēditionem mi
tticrem biennio ante l· manlius praetor ingallia uobis
sed locatam adid tempus non essetaque duum uiri adeam
rem creati abaemilio praetore urb· c· puppius et caeso quinti
us flaminius aedem in arcae faciendam locauerunt abeo dē
pr· ex· s· c· litterae adconsules missae ut sii uidertur alter
eorum adconsules creandos romam ueniret seineam diem
quam iussissent comitiae dicturum adhaec consulibus
rescriptum sine detrimento reip· abscedi non posse abos
te taque per inter regem comitia habenda esse potius quam
consul alterbello auocaretur· patribus rectius uisumest
dictatorem aconsule dia comitiorum habendorum causa
dictus l· uetturius philo· m· pomponium mathonem māg·
equitum dixit iussuntio creati iussis que die quarto decimo
se māg· abdicare adinterregnum redit consulibus
prorogatum inannum imperium inter reges proditur.
apatribus· cn· claudius appii filius centho inde p· cornelius
asina ineius inter regno comitia habita magno certa
mine patrum acplebis· c· terentio uarrone quem sui
generis hominem plebis insectationi principum popu
lcribus quearabus concitati ab; que fabio opibus edic
tatorio imperio concussum aliena inuidia splendem
uolgus et extrahere adconsulatum nitebatur patres

aldo

Cod. Lat. Vaticanus Reginensis 762, fol. 16ᵛ: *Script of Aldo, with signature.*

T. L.

legiones ſe armatas ſimiculo uidere conatae runt aut ſatem
ad arma qui cum in aniculo eſſent negarent quem quam ibi
praeter ad ſuetos ſolli tes ſuſ cultores ſe appa ruiſſe haec prodi
gia bo ſa iſma ioribus pro curata ſunt ex aruſpicum reſponſo
et ſupplicatio omnibus deis quorum pului naria romae exſtan
uicta eſt per petuas ſq; ad pacem in deum per anebant de rep
bello q: gerendo et quo rum copiarum et ubique quae eſſent
conſules ad ſenatum retulerunt duo dexx legionibus bellum
geri placuit bina s conſules ſibi ſumere binis gallias ſicilia q:
ac ſardiniam obtineri duas que pabulum p̄ apuliae ducibus
bolonum t̄ graccum arcaluerunt praeeſſe ſingulas c̄ ce
rerem pro co ſ ad picenium etm̄ uccerio ad claſſem arcubras
diſium eduas urbi preſidium relinqui duas hic ut nume
rum legionum explerent ſex noue legiones erant ſcribendae
exſ primo quoque tempore co ſ ſcribere iuſſi et duas ſempa
rare ut tam eſſ nauibus quae pro calabriae litoribus inſ
tationes eſſent cl longarum claſſis nauium eo anno ex
pleretur dilectum habito et g. nauibus nobis deducat q
fabius comitiam cenſoribus creandis habuit creata m̄ atilius
regulus et p̄ tarius philus cum increbreſceret rumor bellū
in ſicilia eſſe t̄ oriatur eo cum claſſe profiſcatur ſuſpectum
cum de eſſet nauticae conſ exſc̄ dixerunt ut quil aemilio c̄
flaminius cenſoribus milibus aeris l ipſe capite census
cenſus fuiſſet usque ad centum milia aut cui poſſet tanta
eſſet facta nautam unum cum ſex menſuum ſtipendio da
ret qui ſupra centum milia usque ad ccc tris nautas cum
ſtipendio annuo qui ſupra ccc usque ad ccl aeris quin
que nautas qui ſupra decem ſeptem ſcribat octo nau
tas cum annuo ſtipendio darent ex hoc edicto data nautae

p Ragennard

Cod. Lat. Vaticanus Reginensis 762, fol. 68ᵛ: *Script of Fredeg(audus), with signature of this name and of Ragennardus.*

Lib.

profectus cum celeri copiis cadytaesum flumen quinque
milia aburbe abest posuit castra. Eahis statuis regres
sus cadinspiciendum quodopus aliquantum opinione eius
celerius creuerat spem cepit etiam arcem expugnari
posse & est non celsitudine ut cetera tuta sed loco plano
posita et aburbem muro tectum acfossa diuisa cumia
machinationum omni genere & operibi oppugnatur &ly
missum ametaponto praesidium romanis fecit animu
ut nocte & inprouiso operahostium inuaderent alia disiec
runt alia igni corruperunt isque finis hannibalis fuit ea
parte arcem oppugnare reliqua erat inobsidione spes. Nec
ea sceleris efficax quia arce tenentes quae in poene insula po
sita immin& fauces portus mare liberum habebant urbs
contra & clusa militaris commeatus; propiusq: inopiam
erant obsidentes. quamobsessi hannibal conuocatis prin
cipib: tegrentanis omnes praesentis difficultates & posuit
Neq: ceteris tam munitae & pugnande cernere uiam Neq
inobsidione quicquam habere spei donec mari hostes pot
antur quodsi inuehi prohibeat
exemplo hauta arcessitos aut de hostis se hostis Adsen
tiebantur tarentani ceterum ei qui consilium adferre opem
quoq: in eam rem adferendam censebant. sepunicas enim
Naues & sicilia accitas id posse facere suas quae sinu exi
guo intus inclusae essent cum claustra portus hostis habe
ret & quae admodum inde in apertum mare euasuras
tet & quae admodum inde in apertum mare euasuras
Euadent inquit hannibal multaq: in pedita natura sunt
consilio expediuntur urbem in eam postea habebat planae
& sceleris lateae uiae per centa nominis. per tas uia quae in por
tu per mediam urbem admodum transmissa est placustris

Cod. Lat. Vaticanus Reginensis 762, fol. 99ᵛ: *Script of Nauto and of Thcogrimnus.*

T. L.

ſublucem pabulcaum lignicaum etpraedcaum quidam dilapſi
fuerant neclectcamcagiſ omnia acſoluta inuenire arma tantum
inſtcaionib; poſtcamilites inermes authumi ſedentes accuban
teſque aut obambulcantes ante uallum portcasque cum hoſta
ſecuris ſoluta ſque romcani calentes adhuc adrecenta pugna fero
ceſque uictoria proelium ineunt ntcaque nequaquam reſiſtentiN
portas· potuit intra portcas concurſu & toas castris ad primum
clamorem et tumultum facto atrox proelium oritur diuque
tenuiſſent ni cruentca ſcuta romanorum, uiſcindicaum cdteriuſ
clcadis poenis caque inde pcauorem iniecaſſent· hicterror IN
fugam auertit omnis effuſique qua inter eſt niſi quos caedes
oppreſſit excuuntur castris ita nocte adie bina castra hoſtiu
oppugnca aductu L· marci adtriginta ſeptem milia hoſtium
caeſcc auctor eſt clcaudiuſ quiannales acliianos exgreco IN
lcatinum ſermonem uertit captos ad ⟨ɔ⟩· Dcccxxx praedam
ingentem paratcam ineafuiſſe clipeum argenteum pondo cxxxvii
cum imcagine barchini hcaſdrubcalis uicteriuſ antiaſuna castra
mcagonis captcectradidit ſeptem milia caeſcc hoſtium cdteroproe
lio eruptione purgcatum cum hcaſdrubcale decemillicc occiſcc
quattuor millia cccxxx captos piſoquin que milia hominum
cum magone cedentes Noſtros effuſae ſequerentur caeſa exIN
ſidius ſcribit apudomnis magnum nomen marcii ducis eſt
et tuerae gloriae eius adhicam miracula addunt flammam
ei contionanti fusa me capite ſine ip ſius capite ſenſu cum mag
no pauore circum ſtantium militum monimentum quae
uictoriae eius depoenis usque adincenſum capitolium fuis
ſe intemplo clipeum marcium appellcatum cum imcagi
ne haſdrubalis quiaet deinde aliquandiu inhiſpanicc
res fuere uiriſque poſt tantas inuicem acceptas inlatas·

Cod. Lat. Vaticanus Reginensis 762, fol. 120ᵛ: *Script of Theogrimnus and of Theodegrimus.*

hostalis et esse. et futuras quo adeo animo esse ergo
populos romanos scirã nullam enim interrisgen
tem esse nullam infestiorem populum nomini romano
Ideo semoenibus inclusos tenere eos quia si euasis
sent aliqua uelut feras bestias per agros uagari et
laniare et trucidare quod cum que obuium detur alios
ad hannibalem transfugisse alios ad romam incenden
dam profectos inuenturum in semusto foro consulem
uestigias celeris campanorum uestae aedem petitam et
aeternos sine set conditum in portabili fatale pignus im
perii romani semini-mecensere tutum esse campanis po
testatẽ intrandi romana moenia fieri laeuinus campanos
iure iurando a flacco adactos quinto die quam ab senatu res
ponsum accepissent capuam redituros sequi sero mam ius
sit hac circum fusus multitudine simul siculis obuiam egressis
siculis que romam praebuit clarissimarum urbium excidio ac
celeberrimis uiris uictos bello accusatores in urbem adducen
tis Dere. tamen primum ad prouincias ambo consules
ad senatum retulere ibi laeuinus quo statum macedonia et
graecia aetolia carnanes locri que essent quas que ibi res ipse
gisset terra mari que exposuit philippum inferen tem bel
lum aetolis in macedoniam retro abse compulsũ adimti mareni
tus regni abisse legionẽ q; inde deduci posse classẽ satis esse adu cẽ Dũta
luare gẽ haec de se de que prouincia cui pfuerat consultum de prouincis
communis relatio fuit decreuere patres ut alteri consulum tuscia
bellũ quecũ hannibale prouincia esset. Alter classem cui tota ciliuis
pfuisset sicilia que prouincia cũ l. cincio pr. obtineret exercitus
eis duo decreti quin etruria gallia q; esset ea quattuor erant legiones
urbanae due superiores anni in etruria duo q; b; sulpicius consul pfuisset gallia.
mittere gallie et le

tus nec peditem a fronte iam enim stratat pedestris copi
ae erant nec ab tergo equitem sustineret et ipsi cum diu
in orbem se sese tutarentur equis defendissent ad unum om
nes caesi sunt nec quis quam pedtum equitumue super
fuit qui inulte pugnauerunt Ter tacpars quae in col
le ad spectaculum magistratum quam ad partem pug
nae aptior fuerat et erat et locum et tempus ad
fugiendum habuit inter eos et reculi ipsi fugerunt
prius quam tota circumueniretur acies inter tumul
tum elapsi castra eo dem die hispanorum praeter reli
quam praedam cum tribus fere milibus hominū
capiuntur romani socii que ad mille ducenti eo proe
lio caeciderunt uulnerata amplius xxx hominum mins
eruenta uictoria fuisset si pro tempore campo et ad
fugam aptior fuisset purgatum Indibi
lis ab iectus belli consilius nihil tutius in ad flictas rebus
exper tus fide et clementiae scipionis se suis mandoniū
fratrem ad eū mittit qui ad uolutum genibus futu
lem rebiem temporis eius accusat cum uelut conta
gione quadam pestifera nonilergetes modo educe
tum se de castra aequoq; romana insanierint sua quidem et fratris et reliquorum popularium eam con
ditionem esse ut aut sit necuideatur reddant spiri
tum p. scipioni ab eodem illo acceptum aut seruili de
bitam uitam pro eo in per petuum deuouerent antea
recusaturum fiduciam sibi fuisse Nondum experta
clementiae eius Nunc contra nullam in cautum omnē
in misericordiae uictoris spem positam habere
mos uetustus erat romanis quum quo Nec to edere

Cod Lat. Vaticanus Reginensis 762, fol 228 : *Script of Ansoaldus.*

T. L.

tacte p r adirent eas terras ad quas concilia nda dama
iestas nomini romano esset decer nunt legati asiam
petentes protinus delphos cum escendissent oracu
lum adierunt consulente adquod negotium domo miss
siessent perficiendi eius quam sibi spem populo que r
portenderet responsum esse ferunt peratt dum re
gem compotes eius fore quod peterent cum romam
deam deuexissent tum curarent uteam quiuir opti
mus romae esset hospitio exciperet. pergamum
ad regem uenerunt is legatos comiter acceptos pessi
nuntem in phrygiam deduxit sacrum quem his lapidem
quam matrem deum esse incolae dicebant tradidit ac
deportare romam iussit praemissus ablegatis m. vale
rius falco nunciauit deam adportari quaerendum
uirum optimum in ciuitate esse qui eam rite hospitio ac
ciperet. Quae cilius metellus dictator ab consu
le inbruttais comitiorum causa dictus exercitus que
eius dimissus magister equitum l. uetturius philo comi
tia habita per dictatorem consules facti m. corneli
us cothegus. p. sempronius tuditanus absens cum
prouinciam graeciam haberet praetores in decre
ati claudius nero m. marcius rellia l. scribonius libo
m. pomponius matho comitiis peractis dictator se se
magistratu abdicauit. Ludi romani ter. plebei septi
ens instaurati curules fuerunt aediles cn. et l. cornelii
lentuli. l. hispaniam prouinciam habebat absens creta
tus absens cum honorem gessit. t. claudius asilus et m.
iunius penus plebei aediles fuerunt aedem uirtutis
eo anno adpor tum capenam marcellus dedicauit

IVLIVS

XXXVI.

Cod. Lat. Vaticanus Reginensis 762, fol. 236ᵛ: *Script of « Landemarus I » (Theodegrimus ?), with signatures of Landemarus and Ivinus.*

ſim pomponiuſ et decem legati comperiſſent neque iuſſu neq; uoluntate
p. ſcipionis ea facta eſſe ut de exercitum ſcipio maneret bellūq; ut ppo
ſuiſſet gereret. hoc facto ſc. cum tr. pl. factum eſſet aut cōparа
rent quid uocum praetore ac legatiſ irent ad concilium pontificum
relatū et de expiandis quae locriſ in templo proſerpinae tacta uiola
taque inde eſſent tr. pl. cum. pr. et decem legatis profectum. claudiuſ
marcellus et m. cinciuſ alimentuſ aed. pl. datuſque eſt aut in ſcilia. po
ri dicto audienſ non eſſet ſcipio aut iā in africā traiecciſſet prende
re tribuni iuberent ac iure ſacroſanctae poteſtatis reducerent.
priuſ locrenſis requiē meſſenam conſilium erat ceterū duplex fama
eſt. quod ad pleminium attineat alii auditis quae roma acta eſſent
in exilium neapolim eum tem forte inquē metellum unum ex lega
tis incidiſſe et ab eo regium uir etractum tradunt alii ab ipſo ſcipi
one legatum cum xxx nobiliſſimis equitum miſſum qui pleminium.
in catenas et cum eo ſeditionis principes conicerent. illi omneſ ſeuan
de ſcipionis ſeutum praetoris iuſſu tradita in cuſtodiam reginiſ prae
tor legatique locreſ profecti pr. primam ſicuti mandatum erat re
ligionis curam habuere omnem eni ſacrā pecuniā quaeque apud
milites erat conquiſitā ipſiſ ecū attulerant. in theſauriſ repoſue
runt ac piaculare ſacrum fecerunt. tum uocatoſ ad contionem
milites praetor ſigna extra urbē. efferre iubet caſtraque in cā
polocat cum graui edicto ſiquiſ miles aut in urbe reſtraſſet locren
ſibuſ ſe permittere ut quod ſui quiſq; cognoſſet prenderet ſiquit
non compararet unde ante omnia libere placere ſine eo
mora locrenſibuſ reſtitui non leui defuncturum poe
na quinon reſtituiſſet locrenſium deinde contionē
habuit atque hiſ libertatem legeſque ſuaſ.

x. aut ſecū exuliſſe

lup dem ary xxxvii.

Cod. Lat. Vaticanus Reginensis 762, fol. 242ᵛ: *Script of Landemarus II, with signature*

THE AQUA TRAIANA AND THE MILLS ON THE JANICULUM

ALBERT WILLIAM VAN BUREN

IN COLLABORATION WITH

GORHAM PHILLIPS STEVENS.

(PLATE 15)

IT is the purpose of this article to publish that portion of the Aqua Traiana which is in existence under the new building of the American Academy in Rome. This stretch of the aqueduct was uncovered in the years 1912-1913, at the time that earth was being removed for the Academy's foundations [1]. We include also in this publication the remains of the ancient mills, apparently run by water-power from that aqueduct, which were found a generation ago in connection with the construction of the modern streets adjoining the Academy's premises. For our knowledge of the mills, of which no traces are visible today, we are under great obligation to the courtesy of Senator Rodolfo Lanciani, who has placed at our disposal his original record of the finds, bearing the date 2nd March, 1880. As for the aqueduct itself, it has been measured and drawn by Mr. Stevens; the text of this article has been prepared by Mr. Van Buren.

The upper part of our plate (Pl. 15) shows the plan of these two groups of remains and their position relative to the new building of the Academy and other adjacent property [2]. The portion A B of the aqueduct, extending under the Academy building, has been freed of débris, blocked at both ends by two of the new foundation walls, and made accessible from the Academy's basement by means of shafts at the points A and B; it will thus always be available for inspection. The aqueduct comes to the surface at the point C, where insignificant remains are now visible, and points toward the

[1] In these excavations, no traces were found either of the Aurelian Wall or of the road shown in LANCIANI, *Forma Urbis Romae*, fol. 27.

[2] Cf. LANCIANI, *Forma Urbis Romae*, fol. 27; it should be noted that the scheme for new streets there indicated in blue has since been modified.

casino of Villa Spada, D, which has long been recognized as having been built on some ancient remains connected with the aqueduct, probably having to do with the monumental fountain [1].

In the construction of the aqueduct, the portion A B was made partly by " cut and cover " work, partly (to the West, where the ground is higher) by tunneling. At A, where the ridge of the Janiculum attains one of the highest levels in this vicinity, the bottom of the *specus* is today at a depth of m. 7.84 below the surface of the earth. It emerged above ground certainly before it reached the casino of Villa Spada (point D). A section at point B is given in the lower part of our plate, Fig. 1; the floor of the *specus* here is m. 8.54 lower than G, a point on the threshold of the gate of the Villa Aurelia which the Academy's official plan of its property states to lie m. 82.25 above sea-level. The latter figure is derived from the official survey of the Municipality of Rome. Therefore the floor of the *specus* at point B lies m. 73.71 above sea-level. At point A the floor of the *specus* is m. 0.03 higher than at B; and as the interval between the two points is m. 26, there is a slope of m. 0.115 in m. 100, or a ratio of 1 in 869.56–[2].

At the point A, the aqueduct changes direction slightly towards the right (facing up-stream), and becomes somewhat broader and higher just around the bend, probably owing either to an effort to ease the flow of water there or to the meeting of two sections of the aqueduct at that same point.

The *specus* is lined with *opus signinum* consisting of fragments of terra-cotta and brown tufa mixed with *pozzolana* mortar of a white color. Behind this, on the sides, is *opus reticulatum* of brown tufa laid in *pozzolana* mortar of a brown color; see Pl. 15, Fig. 2. The vaulting consists of fragments of brown tufa laid in *pozzolana* mortar of a brown color[3].

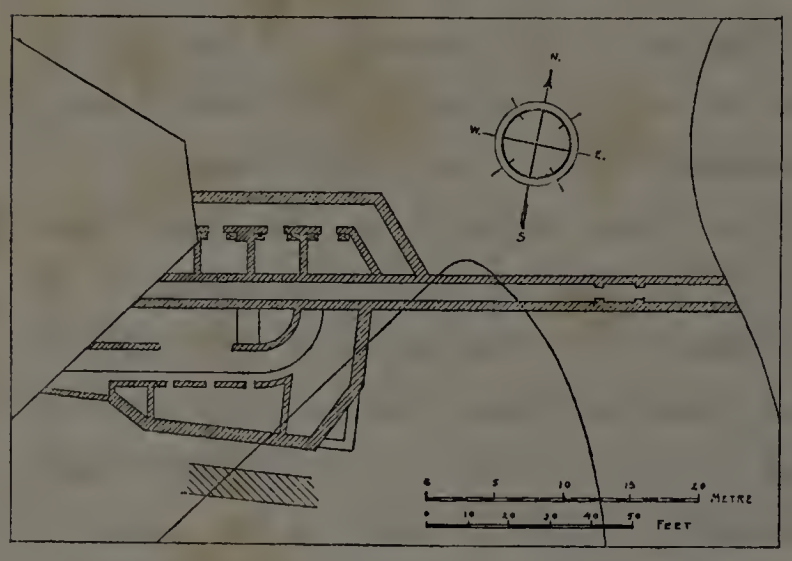


Fig. 1.

The remains at E F are presented on a larger scale in the accompanying cut, Fig. 1, which is a faithful reproduction of Senator Lanciani's own record; the plan of part of them appears in his *Forma Urbis Romae*, fol. 27. It appears that these are

[1] LANCIANI, *I Comentarii di Frontino*, in *Atti dei Lincei*, anno CCLXXVII, 1879-80, ser. 3, memorie della classe di scienze morali, storiche e filologiche, vol. IV, p. 377.

[2] It will be understood that these figures are necessarily subject to a certain degree of variation, owing to irregularities of construction, earthquakes, etc.

[3] Compare Dr. E. B. VAN DEMAN, *A. J. A.*, 2. Ser., XVI (1912), pp. 415-417.

remains of a channel roughly parallel to the Aqua Traiana, doubtless fed from it at some point between B and C[1], and of transverse channels, sluices, reservoirs, etc., the character of which may be explained as follows: Deriving their supply of water from the aqueduct at some point between B and C, as above suggested, the mills, with their reservoirs full, could be cut off entirely from the aqueduct in case the latter was in need of repairs; and the storage space in the reservoirs would then permit the mills to be used for some time while the repairing was being carried on. The sluice at E (see detail, Pl. 15, Fig. 3) probably regulated the flow of the water through the mills in accordance with the varying level of water in the aqueduct, or drained the reservoirs when they had to be cleaned or repaired; its material was travertine. Pl. 15, Fig. 4 represents another sluice, at point F; its material is not recorded.

Pl. 15, Fig. 5 shows one of the numerous millstones, presumably of *selce*, seen by Senator Lanciani near point E. They confirm the identification of this group of channels etc. as belonging to mills for grinding grain[2].

The general questions connected with the Aqua Traiana have been treated in a broader context by Nibby[3] and Lanciani[4], and will be included in the systematic treatise on the aqueducts of Rome which is in preparation by Dr. Thomas Ashby, Director of the British School of Rome; accordingly it is not necessary for me to enter upon them here. As for the mills which the courtesy of Senator Lanciani enables us to publish, it is obvious that they have to do with the mills on the Janiculum of which we have record in the *Curiosum* and *Notitia*, Reg. XIV; in the edict of Claudius Iulius Ecclesius Dynamius, who was Praefectus Urbi towards the end of the fifth century A. D.[5]; in Procopius's account of the siege of Rome in the year 537 A. D.[6]; and in the *Liber Pontificalis*[7].

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[1] If channel E had originally extended westward for any considerable distance, the foundation walls of our new building, all of which are as deep as those at A and B, should have encountered it. As no such discovery was made, we infer that the aqueduct was tapped at some point between B and C.

[2] One may compare the mills and *fullonica* which have been recently discovered in the substructures of the Antonine Baths. For the opportunity to study these I am indebted to the courtesy of Senator Lanciani and the Ingegnere Gaetano Ferri, to whom we may look for the official publication.

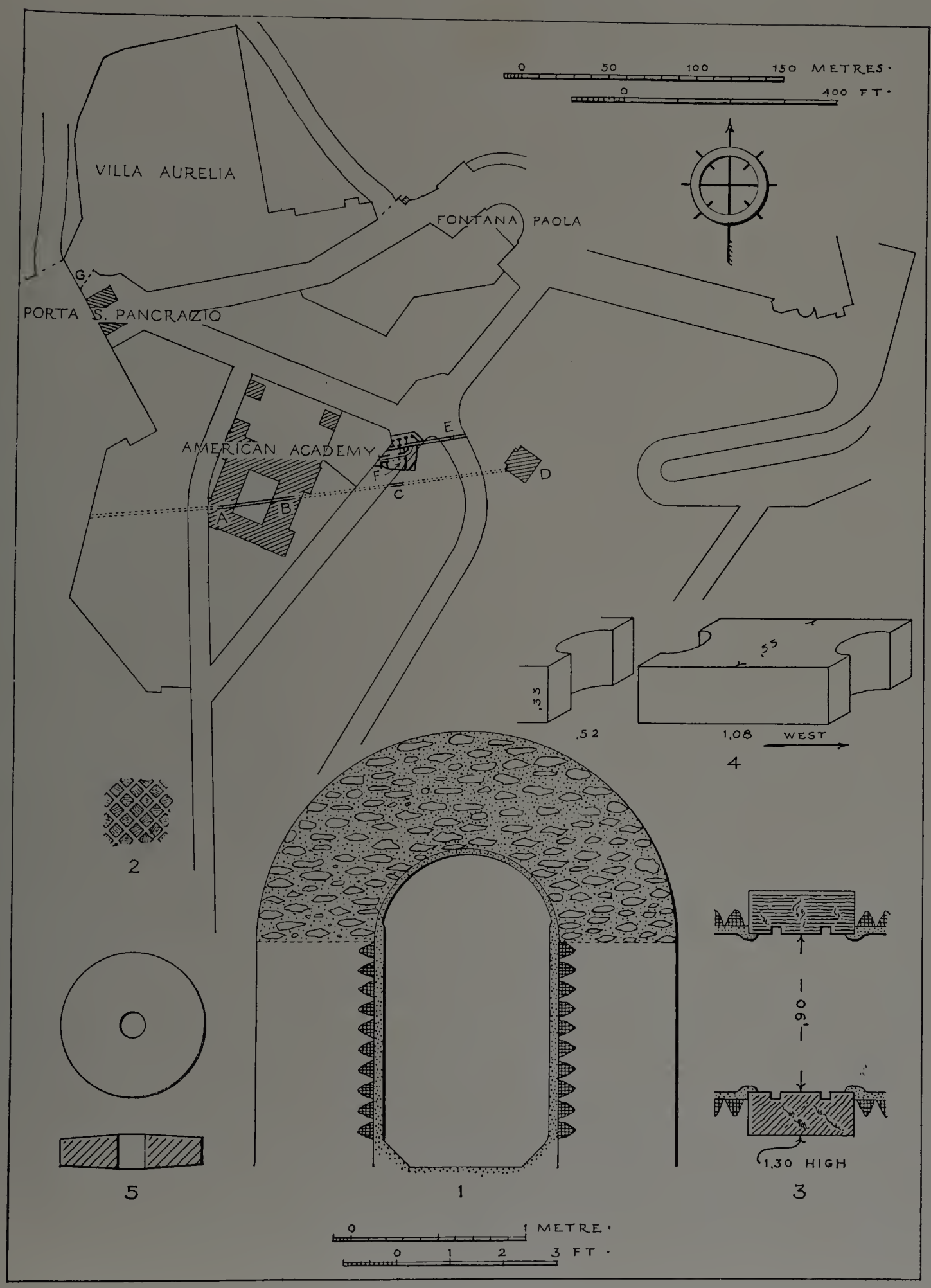
[3] *Dintorni di Roma*, 2. ed., t. III, pp. 254-268; see especially p. 263.

[4] *I comentarii di Frontino*, pp. 374-380; *Ruins and Excavations of Ancient Rome*, pp. 47-59.

[5] *C. I. L.*, VI, 1711; compare LANCIANI in *Mon. Ant. dei Lincei*, I, 480 f.

[6] *B. G.*, I. 19. 8, 19; compare JORDAN-HÜLSEN, *Topographie der Stadt Rom*, I. 3, p. 648, with references there given; THOMAS HODGKIN, *Italy and Her Invaders*, IV., 2d. ed., pp. 161 f.

[7] *Liber Pontificalis*, LXXII, Honorius, c. 7 (an interpolation), and XCVII, Hadrian, c. 59.



Aqua Traiana and Mills, Janiculum, Rome: *General plan and details.*

ANCIENT GRANULATED JEWELRY OF THE VIITH CENTURY B. C. AND EARLIER.

C. DENSMORE CURTIS.

(PLATES 16—19)

I.

IN a previous article [1] I alluded briefly to the granulated technique as employed by the Etruscans of the 7th century B. C. for the ornamention of their gold jewelry. It is now my intention to discuss more fully the processes employed, and to treat of the earlier periods as well.

Many writers have spoken of the granulated work of the ancients, always with the greatest praise, but without discriminating sufficiently between the different techniques and the distinguishing features of the ornamentation employed.

A good modern treatment of the subject is that of Marshall [2], where will be found sufficient reference to the earlier literature. The only fault to be found with this article is one which applies to the other writers as well, namely that the author considers all granulations as applied in practically the same manner, and merely discriminates between those which are fine or coarse.

Another important treatment of the granulated technique occurs in the description of the Vetulonia jewelry by Karo [3] in Milani's *Studi e Materiali*. In the course of the present article frequent reference will be made to this valuable and well illustrated work.

The phrase "granulated jewelry" is used to describe such pieces of gold ornament as are decorated with minute globules of gold. For a very long period, commencing about 2,000 B. C., and lasting until Etruscan art began to degenerate, the more skilful

[1] *An Early Graeco-Etruscan Fibula, J. R. S.*, 1914, pp. 17-25.

[2] *Catalogue of the Jewellery in the British Museum*, London, 1911, pp. liii-lv.

[3] *Studi e Mat.*, Vol. I, Florence, 1899-1901, pp. 235 ff.; Vol. II, Florence, 1902, pp. 97 ff.

of the workmen were masters of a process which enabled them to attach these tiny particles to the surface of their jewelry by a minimum amount of solder, so that they either appear to rest on the surface without support, or are raised on low pedestals, in either of which cases they cast a sharp shadow and stand out in high relief. In the jewelry of the best period they are generally raised from the surface, thereby giving an additional play of light and shade and an inimitable charm to the objects so ornamented.

In judging the excellence of the jewelry of any one period, numerous details must be taken into consideration, such as the artistic quality of the piece itself, the size of the granulations, the accuracy with which they are manufactured (i. e. whether they are perfectly rounded or of irregular outline), the uniformity of size of the granulations on a given specimen, the amount of solder used, and the relation of the globules to each other (i. e. whether isolated, or joined together in rows by additional solder on the sides). The result of such an examination shows that the technique attained its highest degree of excellence in the latter part of the 8th, and in the 7th century B. C. The jewelry produced then finds no rivals either among earlier or later specimens, and has never been equalled even by the best of modern goldsmiths.

Before taking up the description of individual specimens it will be well to speak briefly of the technical processes employed. Probably the most detailed treatment of the subject will be found in a work by Émile Vernier entitled " La Bijouterie et la Joaillerie Égyptiennes " [1]. This volume was written to describe the processes employed by the Egyptians, but is based on a study of the goldsmith's art as practiced today, and the majority of the deductions apply just as well to the objects made by the Etruscans as to those found in the Nile valley. In his description of the art of granulation Vernier falls into the same error as the other writers, in that he considers that there has been very little change in the process throughout the ages. He even goes so far as to state that the work of modern imitators, as for example, that of the well known forger Rachumowsky [2], is in every respect equal to that of the ancients. I have already shown in my former article that this is not the case [3].

The most recent discussion of the subject will be found in the introduction and first three chapters of " Geschichte der Goldschmiedekunst auf technischer Grundlage; Abtheilung, Granulation ", by Marc Rosenberg [4]. This publication is especially valuable on account of the numerous and well reproduced illustrations, many of which represent enlargements up to ten diameters. The chief fault of the work is that in attempting to explain the process used in attaching the granulations to the surface of the jewelry, Mr.

[1] Vol. II of the *Mémoires publiés par les Membres de l'Institut Français d'Archéologie orientale du Caire.*

[2] VERNIER, p. 128.

[3] *J. R. S.*, 1914, p. 20.

[4] Verlag von Heinrich Keller, Frankfurt a. M., 1915, *Aushängebogen,* pp. 1-20.

Rosenberg does not discriminate sufficiently between the different processes employed, and implies that the method adopted for a certain limited class of objects only, was the one generally used.

Numerous methods have been suggested for producing the tiny and yet perfectly round and smooth granulations. The moulten metal may have been dropped into water from a height through a sieve, as one makes shot today. Other writers suggest the employment of small fragments of gold, such as might be produced by cutting fine gold wire into short lengths. If these pieces are placed on a layer of charcoal and heat is applied by means of a blowpipe, they melt into globules. Vernier [1] mentions one procedure which has been industrialized today in the manufacture of pin heads, which involves merely the melting of the end of a fine wire in a flame, and collecting the drops of metal as they fall.

It would seem as if some process of finishing and polishing must have been used, as will be seen from Pl. 19, Figs. 4, 5, which represent the granulations on the fibula described by me in the Journal of Roman Studies [2]. These photographs represent the granulations enlarged to 28 diameters, and show clearly their perfect form and uniform size. Possibly the finishing touches may have been given by rolling the globules between two pieces of glass or metal. In certain specimens the granulations are not polished, but have a matt surface [3]. Probably different systems were employed, varying according to locality and period.

Once the granulations were obtained in sufficient quantity and of the desired size, the workman was confronted with the more difficult problem of attaching them to the surface to be decorated. The term soldering is used to describe the joining together of two pieces of metal by means of a connecting link, or solder, which will melt at a lower temperature than the objects themselves. When heat is applied the solder is fused and attaches itself to the adjoining surfaces which themselves undergo no change. If one employs for this purpose lead, or a similar metal which melts at a low temperature, the process is very simple, but the result is neither durable nor artistic. The ancient jewelers soldered gold with electrum (i. e. a mixture of gold and silver), or even with gold of another degree of fineness than that used in the pieces to be joined. In either case the process involved the greatest amount of skill, and gave as a result the maximum amount of durability and beauty. They also employed a minimum amount of solder with the result that in their granulated work the tiny grains stand out sharp and distinct, often with no apparent support. As a rule however, with the aid of a high powered microscope one can detect the little pedestals or ridges of solder which raise the globules above the surface.

[1] VERNIER, p. 129.

[2] *J. R. S.*, 1914, pp. 17-25. I am indebted for these photographs to the kindness of Mr. Ellis of the Interborough Rapid Transit Company of New York.

[3] See below, p. 70.

Rosenberg [1] refers to a recently discovered process for attaching the globules in granulated work and thinks that the ancients must have worked in the same manner. In this method the granulations are placed on a bed of charcoal and then heated almost to the melting point, at which temperature they absorb so much of the carbon as to become much darker in color. If in this state they are glued by some means to the surface they are to decorate and then heat is applied, they will melt at a much lower temperature than the gold surface which has not been treated in the same way, and attach themselves to it as though fused in one piece. At the same time the absorbed carbon is driven off and the gold resumes its normal color. Mr. Rosenberg is so carried away by the simplicity of this process that he holds it to have been the course generally followed in antiquity. As a matter of fact however, an examination with a high powered microscope shows that in the majority of the ancient specimens the ridge or pedestal of solder is plainly evident. It may well be, on the other hand, that the early workmen did use some such process for treating the gold which they used as solder, and possibly the granulations as well.

One curious fact which one notices in examining ancient granulated jewelry with a microscope is the roughened surface of the gold between the granulations, suggesting that a very considerable amount of heat must have been employed. Possibly heat may have been applied to the entire object after it had been properly prepared by the glueing on of the required granulations.

II.

It is now my purpose to examine the jewelry of the different early periods, and to describe in detail a few of the less well known specimens which it has been my privilege to examine.

The earliest granulated jewelry of any artistic importance is that from the Dahshur treasure in the Cairo Museum, dating from the XIIth dynasty, or about 2000-1900 B. C. The objects decorated with granulations consist among others, of a number of beads, 5 star-shaped pendants, one butterfly pendant and one ring. The technique at the first glance seems much the same as that employed by the Etruscans, but a closer scrutiny makes it evident that the jewelry lacks the careful attention to minor details which gives an inimitable charm to the best work of the 7th century B. C. The tiny globules are of fairly uniform size, approximating those of the Etruscans of the best period, but are not perfectly smooth, and are often imperfect in shape with deep dents in the sides, giving color to the theory of Vernier that they were formed by melting drops from the

[1] Rosenberg, pp. 13-14.

end of a piece of wire. Moreover the granulations rest practically on the surface of the different pieces, and the solder which holds them surrounds their bases. This causes the granulations to blend with the surface of the jewelry and one misses the sharp contrasts of the Etruscan pieces. The granulations are also joined one to the other on the sides by connecting cylinders of solder to give them additional support. The whole effect may be described as good, but not perfect. The rows are not even, and at times so much solder is used that the whole effect is blurred.

The beads [1] are of two types. One is spherical, and decorated with four rows of granulations at right angles to the axis. The other form is more elongated and has two rows of granulations on sharp ridges, also at right angles to the axis.

The butterfly [2] is formed of a backing plate of gold decorated with granulations in little compartments. On the wings the globules are in single lines radiating from the center. The body and head are formed of one larger and one smaller group all on a single plane, somewhat as in the Vetulonia technique of a much later period. The granulations are of fairly uniform size, but are not at all perfect spheres. Several of them which fill the gaps and end the rows are quite small. All are imbedded in a superfluous amount of solder. The whole effect is good from an impressionistic standpoint. The anatomical details are well suggested if one gives but a hasty glance, but are not accurately carried out, and the general appearance on closer inspection is of careless workmanship.

The five, star-shaped pendants are of more delicate and difficult construction in that they have no backing plate, and the granulations are held between the walls of the compartments merely by the solder which joins them to the sides and to each other. Three of them are comparatively simple in construction [3], with a circle within a square from which radiate eight points, all outlined by single rows of granulations. The other two pendants [4] have five points radiating from a circular center, all filled with a solid sheet of granulations which are soldered to the sides and to each other. At times one granulation is joined to as many as six others which surround it. This involves the use of much solder and gives a blurred appearance in places which offsets the effect of lightness and grace which one cannot help but feel on account of the unusual and hazardous treatment.

Of all the Dahshur jewelry ornamented with granulations the best effect is produced by the ring [5] with a broad bezel ornamented with 27 lozenge-shaped granulated figures,

[1] In " Cage " A, division F, in the museum.

[2] In " Cage " A, division B, No. 3902. See Pl. 16, Fig. 3, from VERNIER, Pl. I, Fig. 14.

[3] VERNIER, Pl. I, Fig. 13.

[4] See Pl. 16, Fig. 2, from VERNIER, Pl. I, Fig. 15.

[5] In " Cage " B, division D (No. 30900) in the museum. See Pl. 16, Fig. 1, from VERNIER, *Cat. des Antiquités Égyptiennes du Musée du Caire*, Vol. XLVIII, Pl. XXII, No. 52238.

the majority of which are made up of 25 granulations each. The globules are of very uniform size, though not perfectly rounded, and since they are joined closely together in the lozenge-shaped figures, the solder attaching them to the surface is not visible, and the whole effect is more clear cut and sharp than in the other pieces.

This, with a very few exceptions, completes the list of the early jewelry from Egypt. The specimens are not numerous, but show that the granulated technique was fairly well developed about 2000 B. C. From that time on isolated examples occur in Egypt, but none of artistic importance dating before 1300 B. C. have survived. Mention may be made of a dagger[1], also in the Cairo Museum, dating from about 1600 B. C., on the golden hilt of which are a number of rough and fairly large granulations.

Of approximately the same date as the Dahshur jewelry, or possibly somewhat later, are the gold ornaments from the " great treasure " discovered by Schliemann at Troy in 1873, and also many of the objects which he found in subsequent excavations (1878 and later). This early find has many primitive elements and may well date, as Schliemann claimed, from the second city, and be assigned to the pre-Mycenaean bronze age, or roughly speaking, about 2000 B. C. A good example of the technique is seen in the ear-ring (N) 6126 in the Trojan section of the Ethnographical Museum in Berlin[2]. The workmanship is rough and the general effect far from good. The ear-ring has a leach-shaped body ornamented with several rows of granulations. The globules are somewhat larger than those used in the best Etruscan period, and are of irregular shape, seeming more like small sections of wire than perfect spheres. The rows are not straight.

Two other ear-rings of apparently the same period were found at Troy a few years later and are now also in Berlin[3]. They are formed of an oblong strip of gold 2.7 cm. broad, bent into semi-cylindrical or " basket " shape, with a hook attached to one of the upturned sides. Both front and back have a similar ornamentation consisting on the upper portion of double raised ridges alternating with rows of fairly large, irregularly spaced granulations similar to those on the last described specimen. The lower portion has a band with engraved decoration. To the bottom is attached a strip with five depressions and five holes which once probably held pendants. At the beginning of the hook above is a truncated pyramid of granulations.

For several hundred years after the period of the IInd city at Troy the granulated technique received no further development. At this point, however, mention might be made of several wooden dagger handles and scabbards[4] from sites in England and Western Brittany, decorated with innumerable tiny gold pins driven into the wood in

[1] VON BISSING, *Ein alt-thebanischer Grabfund,* p. 4, Pl. III, 5.

[2] H. SCHMIDT, *Heinrich Schliemann's Sammlung Trojanischer Alterfuemer,* Berlin, 1902, p. 245.

[3] See Pl. 17, Fig. 3, from SCHMIDT, p. 239, Nos. 6004-5.

[4] PARKYN, *Prehistoric Art,* (London, 1915), pp. 237-40.

such a manner that the heads form a regular pattern. They all appear to date from the early bronze age. They have of course no connection with the granulated work of other regions, but offer a certain interest on account of the similar effect which they produce.

III.

In the Mycenaean period the objects decorated with granulations are more numerous and of somewhat better technique, although in the case of the early specimens before about 1200 B. C. the globules are not perfectly round and there is no feeling for style or delicacy of treatment. It will therefore suffice to mention a few of the best examples. In the National Museum at Athens are a number of small pendants from Mycenae, Spata and Menidi, some pear and some shell-shaped, ornamented with rows of granulations [1]. In the same museum are 7 pendants from Argos [2] ornamented with a conventionalized representation of a nautilus of which the outline is accentuated by granulated lines. In one of the tombs excavated by Tsountas in the lower town of Mycenae was found a small female figure in gold [3], heavy and clumsy in form, decorated with several rows of granulations. One row along the top of the head suggests the hair; another row across the neck represents the necklace. The breasts are marked by two isolated globules. Below the waist two vertical rows of granulations with radiating lines on either side suggest the folds of the garment. The workmanship is rough and we are still far from the finished technique of the later Rhodian specimens.

At Menidi were found two pendants [4] in the shape of a vertical half-section of a small pitcher or ewer, 2.4 cm. in height. A similar pendant is in the Antiquarium at Munich, and still another is in the Museum of Fine Arts in Boston. They are all decorated with lines of granulations outlining the rim, handle, shoulder and base. In the Boston and Munich examples, the only ones I had an opportunity of examining closely, the granulations are not perfect spheres. They have a rough surface and are set with too much solder, both below and joining the sides, to give a clear cut result.

In the recent excavations at Old Pylos [5] was found a disk (from tomb B) 2.4 cm. in diameter, with a handle in the form of a double volute. The disk is surrounded by a row of granulations on which rest four granulated triangles pointing towards the center. It was probably a cover for some small flask or jar. From the same locality comes

[1] In case 43, No. 3153; case 82, Nos. 2120, 2131; case 86, No. 1912.

[2] Stais, *Collection Mycénienne du Musée Nat. d'Athènes,* (Athens, 1909), Vol. II, p. 123.

[3] Stais, *op. cit.*, p. 75.

[4] Stais, *op. cit.*, p. 145. (*Athens Museum*, case 86, Nos. 1910, 1911).

[5] *Ath. Mitth.*, 1909, p. 294, Pl. XIV, 1.

an object of somewhat better execution in the shape of a small toad [1] in low relief, 2.4 cm. long and 2 cm. broad, with the warts suggested by a number of quite large and irregularly placed globules.

Also of the Mycenaean period is one object with very fine granulations, such as do not appear again until the 7th century in Etruria. This is a circular ornament from Vaphio [2] and is now in the Athens Museum [3]. It consists of a small circular disk of gold about 2 cm. in diameter, ornamented by a circular boss in the center, surrounded by eight others which are smaller. Each boss is surrounded by a circle of twisted wire and has its surface covered by a layer of very fine granulations arranged in approximately concentric circles. The granulations are nearly buried in an excess amount of solder and the technique in no way equals that in later use.

At this point reference might be made to two small gold figures from Cnossos, sporadic finds and difficult to date, but apparently of the Mycenaean period or Late Minoan III, according to Cretan chronology. One of these represents a lion [4]. It is formed of two embossed plates soldered together, and has the mane indicated by granulated lines. The other is a tiny duck [5] with somewhat coarser granulations applied to the lower part of the body in irregular lines similar to those on the lions and birds of later Etruscan jewelry. From the brief mention of Evans concerning these objects it is impossible to determine with what accuracy the granulated technique is employed. Of probably the same period also are several small disks [6] which were found at Phaistos. They are surrounded by a border or rim of granulations, and once held paste settings.

Dating from the end of the Mycenaean or late bronze period are a number of pieces from the Island of Cyprus. The most important of these is a gold pendant in the shape of a pomegranate. It was found at Enkomi and is now in the British Museum [7]. It is 3.6 cm. in height and 2.5 cm. in diameter, and is divided into nine sections by horizontal double rows of granulations from which point downwards small granulated triangles, all with four globules on each side except the top row which has three. The rows of granulations are somewhat irregular and are not absolutely parallel. The globules are of two sizes, are perfect spheres, and have a matt surface. On the upper and lower portions of the pendant they are smaller and more carelessly set, imbedded in much solder. In the central portion they are placed with a fair amount of regularity and the technique compares favorably with that employed in the Dahshur jewelry. From an Egyptian ring found in the same tomb with this pendant the date is placed at 1300 B. C. or later.

[1] *Ath. Mitth.*, 1909, p. 271, Pl. XIII, Fig. 27.
[2] *Ἀρχ. Ἐφ.*, 1889, col. 151, Pl. 7, Fig. 6.
[3] Stais, *op. cit.*, p. 154.
[4] *An. Brit. Sch. Ath.*, VII, 1900-1901, p. 50.
[5] *An. Brit. Sch. Ath.*, VIII, 1901-1902, pp. 38-9, Fig. 18.
[6] *Mon. Ant.*, XIV, col. 602, Figs. 68-9; col. 603, Fig. 70.
[7] See Pl. 16, Fig. 5, from Marshall, Pl. V, No. 626.

Of about the same period are several ear-rings, also from Cyprus, formed of an open ring with overlapping ends, and decorated with a pendant in the shape of a bull's head thickly covered with granulations. Several of these are in the British Museum [1], and one is in the Metropolitan Museum in New York [2]. In the New York example the granulations are irregularly placed and are worn as if by much use. They are all inartistic and evident imitations of the earlier embossed bulls' head pendants [3]. From this type are possibly derived the later ear-rings ornamented with a group of several larger globules.

Not only in Cyprus, but in Egypt, and farther East at Susa, gold jewelry of much beauty was produced at the end of the Mycenaean period, and specimens ornamented with granulations are quite common. Mention may be made of two ear-rings and two bracelets from Egypt, on all of which granulated triangles are an important feature of the ornamentation. The ear-rings are now in the Egyptian collection in Berlin [4]. They were purchased in Paris, and the original provenience is therefore not certain, but to judge from their form, and from the genuine Egyptian fayence with which they are inlaid, they are not Cypriote, but come from Egypt and date from about 1250 B. C. One of the two specimens is quite fragmentary. The other is 10.2 cm. in height and 4.4 cm. in width, and consists of a circular central portion, with an elaborate clasp above and several pendants on chains below. The central disk has on the outer rim a band of interlacing wires. Within this is a band with inlaid bits of fayence to represent the petals of some flower, probably a poppy. The central portion has a band ornamented with nine granulated triangles pointing inward from the outer edge, to which correspond nine others pointing outwards from a central space which once held an inlaid stone or bit of paste. The arrangement of the triangles is exactly the same as on the geometric pendants mentioned below, and this or similar pieces may well have been the prototypes for the later specimens.

The two bracelets date from the time of Rameses II (c. 1250 B. C.). They were found at Bubastis and are now in the Cairo Museum [5]. The central feature of the decoration on each bracelet consists of the heads of two geese attached to a single body of which the upper and lower portions are of gold. The central part of the body is represented by an oval shaped piece of lapis lazuli. The decoration of the gold surfaces of the bracelet consists of many complicated elements of which the most prominent are

[1] See Pl. 16, Fig. 4, from MARSHALL, Pl. IV, Nos. 536 and 538.

[2] MYRES, No. 3116, p. 378.

[3] MYRES, *loc. cit.*

[4] H. SCHAEFER, *Aegyptische Goldschmiedearbeiten,* (*Mittheilungen aus der Aegyptischen Sammlung,* Vol. I, Berlin, 1910), pp. 61-3, No. 92; Pls. I[a] and 14, Figs. 92 a, b, c. Museum number 19300.

[5] VERNIER, *Cat. des Antiquités Égyptiennes,* Vol. XLVIII, pp. 183-4, Nos. 52575-6; see our Pl. 16, Fig. 7, taken from Pl. XVIII of this publication.

rows of granulated triangles and rhomboids. In both of these specimens and in the Berlin ear-rings the granulations are close together and near the surface. The workmanship is good, but the granulations are mere mechanically placed decorations and lack the grace and charm of the later Rhodian and Etruscan specimens.

The jewelry from Susa was discovered in 1904 in the foundation deposit of the Temple of Shushinak[1]. The objects found are of dates varying between the 12th and 9th centuries B. C. The granulations occur on several rings and a gold handle for a wand or scepter. A good example of the technique is seen in ring No. 7[2] which consists of a simple gold band surrounded on either edge by a single line of granulations. On these lines rest granulated triangles pointing alternately upward and downward.

The gold handle[3] terminates in a lion's head and is mounted on a circular wand of gray bituminous limestone. The head is well modelled and is decorated with engraved lines to bring out the details. The granulated triangles form a band around the neck. They resemble closely those on the Egyptian specimens just described and were probably produced at a not much later period.

Another interesting feature of the jewelry from Susa is the use as decoration of rows of raised dots, formed by striking the opposite side of the object with a pointed tool. The tiny projections thus formed give in some degree the effect of granulated work. A good example of this process is seen in one[4] of the two pendants ornamented with an 8-pointed star in relief. At times the reverse of this procedure was employed and the decoration consists of small depressions, as in the case of the other pendant[5] ornamented with a similar star.

Similar ornamentation occurs on many specimens from Troy[6] of about 2000 B. C., and from Mochlos in Crete[7] of much earlier date, about 2500 B. C. In the case of the Mochlos examples no granulations occur, so that the process could hardly be said to be derived from the granulated technique, although in many instances at later periods it was doubtless employed to give the effect of granulated work at much less expense. On the other hand it would be hazardous to suggest that the granulated technique was derived from that of the raised dots[8], when we find it so fully developed in Egypt in the Dahshur treasure, at the beginning of the second millennium B. C.

[1] J. DE MORGAN, *Mémoires de la Délégation en Perse*, Vol. VII, (*Recherches archéologiques, deuxième série*, Paris, 1905).

[2] DE MORGAN, *op. cit.*, Pl. XIV.

[3] DE MORGAN, *op. cit.*, pp. 134-5; Pl. XXIV, 3 a, b, c.

[4] DE MORGAN, *op. cit.*, p. 66, Pl. XII, 6.

[5] DE MORGAN, *op. cit.*, p. 65, Pl. XII, 5.

[6] SCHMIDT, *op. cit.*, No. 5875 on p. 232, from the " great treasure ".

[7] R. B. SEAGER, *Explorations in the Island of Mochlos*, p. 105 and Figs. 8, 9, 10.

[8] Cf. *Ἀρχ. Ἐφ.*, 1897, cols. 124 ff.

IV.

Following the late bronze age came a transitional period during which iron was gradually substituted for bronze. This may be dated for convenience as from 1200 to 1000 B. C. In this period gold objects were very rare. Then followed the fully developed iron age, and the geometric period, lasting until the beginning of oriental influence about the middle of the 8th century B. C. Gold objects then became fairly common and displayed the same decorative features which one finds on the vases, first the purely geometric motives, and then the gradual introduction of the oriental elements. From this period date probably a number of circular disks ornamented with granulated geometric designs, generally triangles, and often set with a stone in the center. In the Metropolitan Museum in New York are several of these disks [1] ornamented with granulated triangles and with concentric rings in relief. One of them (No. 3385) has a more elaborate decoration with rows of granulated triangles pointing inward from the outer rim and outward from the central space with inset stone. Between the two rows of triangles are granulated rhomboids [2]. Above is a hollow cylinder, bent to follow the curve of the disk, and also decorated with rhomboids. Below were three clusters of small bell shaped objects on slender chains, of which some have been lost.

Another disk with fewer triangles was found in the Idaean Cave of Zeus on the Island of Crete [3]. It is 2.15 cm. in diameter, and is surrounded by two concentric circles of granulations, from the inner of which 9 granulated triangles point toward the center. Within is a circular compartment which probably held a setting, and from this nine smaller triangles point toward the rim, alternating with the outer nine. Two eyes for attaching are soldered on opposite sides of the rim.

Another example of this period is an ear-ring in the British Museum [4] in the form of a flat crescent with spaces for two circular settings, and decorated between these with granulated lines in geometrical patterns. Below are four pendants hanging from loops. Also of the same period and technique are two other ear-rings [5] and four small plaques [6], all from Eleusis and probably now in Athens.

This completes the list of the granulated jewelry before the middle of the 8th century B. C. All of the specimens have not been mentioned but the omissions are not numerous.

[1] From Cyprus. MYRES, p. 381, Nos. 3189-93.

[2] Cf. above p. 71 the Egyptian specimens of the 13th century B. C. for possible prototypes.

[3] *Museo Italiano di Antichità*, II (1888), col. 750.

[4] See Pl. 16, Fig. 8, from MARSHALL, p. 105, No. 1240 and Pl. XIV.

[5] *Ἀρχ. Ἐφ.*, 1898, cols. 103, 6; Pl. VI, 6, 7.

[6] *Ἀρχ. Ἐφ.*, 1885, cols. 179 ff.; Pl. IX, 3, 4.

V.

With the beginning of oriental influence the production of gold ornaments received a great impetus, and for the next two centuries they were made in large quantities and with great artistic feeling. During this period the granulated technique reached its highest state of development, and excellent specimens exist from sites ranging all the way from Asia Minor to Carthage and Etruria. The majority of the pieces have been well described in the various publications. In the following pages will be mentioned merely those which I have had occasion to examine closely, or which have not as yet been brought before the public.

As far as technique is concerned, there was at first little difference between the Eastern and Western specimens, and it is therefore difficult to determine where any given feature of the art had its origin. The chances are that objects of this nature were everywhere in demand and that workmen, whether of the country or imported, were found to supply the wants of the local patrons. They naturally were influenced by local conditions and it is therefore to be expected that the forms of the jewelry and the subjects represented should vary in the different localities.

In the East one of the chief centers of production seems to have been the Island of Rhodes. At least a large number of the known specimens come from that island, though examples displaying similar technique have been found in Thera and Delos of the islands, at Ephesus, Sardes and Aidin in Asia Minor, and in Attica. The best specimens of what I shall henceforth term the Rhodian technique date from the end of the 8th or early in the 7th century B. C. Numerous specimens exist in the museums of Athens, Berlin, Bologna, London, Paris (Louvre and Bibliothèque Nationale), Boston and New York. The ornaments consist of golden plaques, diadems, bands, ear-pendants, rings, rosettes and beads. One quite complicated type of ear-pendant has a twisted loop of heavy wire bent up at either end to support small disks and heads of griffins. Of frequent occurrence are pendants with a rosette from which hangs a rectangular plaque. The chief feature of the ornamentation consists of a figure in relief, such as a lion-taming goddess, a centaur or a sphynx, with many details of form or costume outlined by rows of granulations. In many cases the figures have a curious head-dress with horizontal layers, resembling the Egyptian klaft [1]. At times only the head is represented. The granulations are in all cases attached with a minimum amount of solder and are raised somewhat above the surface so that the contrast of strong light and shade is produced in much the same manner as in the best Etruscan specimens.

[1] Cf. Poulsen, *Der Orient und die frühgriechische Kunst*, pp. 137 ff.

A good example of the technique is shown by a gold ornament which is now in Berlin[1], and which is made up of the customary plaque, with a large rosette above and pendants below. The plaque is 3.7 cm. in height and 3 cm. in width, and has soldered to the back a heavy, vertically ribbed handle with a knob at the end, bent as if to slip over some object. Soldered to a slight projection from the upper side of the plaque is a rosette of 13 elongated petals, each surrounded by a granulated line and with a cluster of granulations in the center. To the center of the rosette is attached a lion's head with open mouth and slightly protruding tongue. Around the mouth is a line of small granulations. Inside the mouth other globules represent two teeth above and two below. Another row of granulations follows the line of the nose. The mane is represented by numerous clusters of four granulations each. The plaque is bordered by four lines formed of horizontally and diagonally ribbed wire. Within, the entire space is filled by a standing winged female figure, facing front, and clutching in either hand one hind-leg and the tail of a lion. The other legs of the lions rest against the skirt of the female figure. Their heads are turned upward and with open mouths they seem to snarl fiercely at their captor. Numerous details of the group are brought out by granulations. The hair is represented by a double line above the forehead, at either side of which three double zig-zag lines descend to the shoulder. Above the forehead several triangles of three grains each suggest some variety of head-dress. Other lines bring out the pattern of the garment, the girdle, the outline of the wings and the heads and manes of the lions. Soldered to the lower portion of the back of the plaque are four vertical strips of gold with their lower ends rolled into the shape of cylinders which come just below the lower rim of the plaque. From these four cylinders, and from a loop at the lower left hand corner of the plaque hang 5 small vertically ribbed pendants in the shape of pomegranates.

The granulations on this ornament, as on the majority of similar specimens, are perfect spheres, and are raised from the surface on low pedestals of solder when isolated, or on ridges when they are joined in rows, as is often the case, by connecting cylinders of solder on the sides. The whole effect is excellent and is only surpassed by a few of the Etruscan specimens. Many interesting parallels to the details of this pendant are found in the other Rhodian specimens, but a discussion of these and of the numerous other types of Rhodian jewelry does not come within the scope of the present article, which has to deal merely with the granulated technique.

As was stated above, numerous specimens with similar granulated ornamentation and other details have been found in Attica and on several of the Greek islands[2]. At times

[1] See Pl. 16, Figs. 9 and 10 (front and back). Cf. *Jabrb.* 1904, *Beilage*, pp. 40-41; Fig. 2-12. I am indebted for the photographs to the kindness of Dr. Köster of the Berlin Museum.

[2] Cf. MARSHALL, pp. XXiV-XXV.

the smaller rosettes found on the Rhodian specimens receive more elaborate treatment, as seen in an example, said to be from Melos, in the Bibliothèque Nationale in Paris[1]. Upon a circular backing plate 4 cm. in diameter are placed 12 golden petals alternating with as many triangular projections from the backing plate to represent the calyx of the flower. Each petal has a raised wire border within which is a row of granulations which are somewhat smaller than those on the Rhodian pendant just described. The center of the flower is represented by an inset sapphire, like a drop of honey, from which are sipping two tiny and most realistically modelled golden flies, one on either side. Each fly has six legs of wire. The heads are separate or nearly so, and are attached by a bit of wire to represent the neck. On the outer rim of the rosette, placed in the rounded ends of two opposite petals, are two bulls' heads, with several details brought out by granulations. The horns are round and smooth. The ears are of tiny plates of gold attached below the horns. The top and back of the heads are ornamented with double zig-zag lines of granulations. On opposite petals, half way between the bulls' heads, are two female heads, similar to those on the Rhodian plaques, with the typical head-dress, of which the horizontal divisions are outlined by single rows of granulations. These head-dresses are termed by some writers, as Poulsen[2], " layer wigs ". They do resemble the heavy wigs seen at times on Egyptian statues, but may represent merely an elaborate form of head-dress, or merely elaborately curled hair. It is just as reasonable to represent the shadows of curls by horizontal as by vertical lines.

Also in the Bibliothèque Nationale is a small bull's head[3] of unknown provenience, which may have originally formed part of a similar rosette. The granulations are larger than on the last mentioned specimen and are applied with much care. The modelling of the head is good and the whole effect is pleasing. The horns are smooth. The ears are quite large and are slightly ribbed within. Above the eyes is a row of granulations which is also continued around the base of the horns. Around the neck is a row of three grain clusters, and similar groups are on the back of the head. Between the eyes are two clusters of 4, and two of 3 globules. Between the horns are four rows of granulations.

In the Louvre[4] is another and larger animal's head, probably of a stag, with long spreading horns which meet above the head in the form of a circle. The height of the head is 2.3 cm.; of head and horns together 6.4 cm. The granulations are larger than on the Rhodian objects but are carefully rounded and applied, and the head more probably dates from that period than from Mycenaean times as the museum label claims.

[1] See Pl. 16, Fig. 11. Cf. Perrot and Chipiez, III, (Paris, 1885), p. 829, Fig. 591.

[2] Poulsen, pp. 137 ff.

[3] See Pl. 18, Fig. 8.

[4] See Pl. 17, Fig. 6, from Perrot and Chipiez, V, (Paris, 1890), p. 881, Fig. 534.

The granulations extend in a single line above the nose and around the eyes, and in a double line (expanding into a circle between the eyes) from the end of the nose over the top of the head, and down the back of the neck. Within the circle between the eyes is an inner circle of granulations. The horns are long and are pierced by six holes as if some objects were once attached, probably the branching portions of the antlers.

In the 18th century the entire stag was intact and was published by Caylus in his Recueil[1]. His drawing shows the presence of granulations down the shoulders and along the flanks of the animal. Early in the 19th century the stag was stolen and in some manner the head alone later came into the collection of the Louvre. S. Reinach[2] thinks the figure Mycenaean, basing his argument partly on the resemblance to the golden reliefs with a representation of two kneeling stags, from Mycenae[3], and partly on the alleged place of finding, Amyclae, which is situated not far from the Vaphio tomb. The attribution to the Mycenaean period is possible, but it should be noted that the granulations are better made and applied than on any Mycenaean specimen which I have had an opportunity of examining, and that there is no other example of an animal's head dating from Mycenaean times which has as decoration similar lines of granulations, whereas the bulls' heads mentioned above have precisely the same type of ornamentation.

In several sites in Asia Minor, at Ephesus, Aidin and Sardes, have been found a number of pieces of granulated work of about the same period as the Rhodian objects. The finds from Ephesus[4] are not all of the same period, and some of the specimens are a trifle earlier in appearance than the Rhodian jewelry. They consist of a large number of small gold ornaments such as brooches, pins, pin-heads, floral ornaments of tiny blossoms, spheroids and pendants. Granulated decoration is comparatively rare and mainly confined to lines surrounding the small ornaments. Of more importance are four pendants[5] in the form of a fly, a bee[6], a lion's head and a hawk, all ornamented with granulations. A more detailed description of these pieces must be deferred until there is opportunity to examine them with a microscope.

The ornaments from Aidin are now in the Louvre. The most important piece is a large semi-circular plaque[7], possibly for a fibula, 6.8 cm. high and 8.4 cm. broad. It is ornamented with numerous animal heads, and with one female figure in relief, all resembling those of the Rhodian plaques but less well executed. The granulations, too, are more carelessly applied, with a larger amount of solder, and the plaque is probably

[1] Vol. II, Pl. XI. The same plate is reproduced by REINACH in *Bul. Cor. Hell.*, 1897, Pl. I.

[2] *Bul. Cor. Hell.*, 1897, pp. 1-15.

[3] Cf. SCHLIEMANN, *Mycenae*, (London, 1878), p. 179, Fig. 265.

[4] D. G. HOGARTH, *Excavations at Ephesus*, (London, 1908).

[5] HOGARTH, *op. cit.*, Pls. III, 1, 5, 7; IV, 27.

[6] See Pl. 16, Fig. 6, from HOGARTH, Pl. III, 5.

[7] See Pl. 17, Fig. 8, from PERROT and CHIPIEZ, V, (Paris, 1890), p. 295, Fig. 203.

a local imitation of the Rhodian jewelry and of a slightly later date. The specimens from Sardes[1] were at last reports in Constantinople. They have not been published, and present war conditions have made it impossible for me to make the journey to examine them.

VI.

We have thus far had to deal with the various types of granulated ornaments found in the East down to the end of the 7th century B. C. It now remains to discuss those from Western sites for the same period. The majority of these come from Etruscan graves. They differ so greatly from the specimens just described and also vary among themselves to such a degree, according to the sites where they are found, that they seem to have been of local origin and not imported.

Before taking up the technique as practised by the Etruscans mention will be made of several Phoenician specimens from Carthage and from the islands of Malta and Sardinia, which have Egyptianizing motives as a characteristic feature of their decoration. They date from the late 8th or 7th century B. C. and while differing in types from the jewelry just described, display a similar excellence in the granulated technique.

The example from Malta[2] is a circular pendant 2.5 cm. in diameter and was found S. of Rabat in a Phoenician rock-cut tomb with vaulted roof. It is now in the museum at Valetta, Malta. The pendant is formed of a thin gold disk to which is attached a gold ring as border. Above is attached a perforated ribbed cylinder, for suspending. Within the raised border is a row of granulations. In the lower portion of the central space is the globe between two crowned Uraeus serpents. In the center is the half moon with the horns pointing upward. Above is the solar disk with broad spreading wings formed of separate plates of gold with incised decoration, and attached to the backing disk. Above and below the winged sun are several rays formed of separate strips of gold. Lines of granulations surround the solar disk, outline the wings below, and also the serpents and their crowns and the half moon. An extra granulation was attached to represent the eye of each serpent, but that on the left hand side has been lost. The scales of the serpents are indicated by incisions. The globe between the serpents is entirely covered with granulations. The execution as a whole is excellent. The granulations are of uniform size. Wherever they border the wings or serpents or the rim of the pendant, they are attached to that portion, and also to each other. This often leaves them raised from

[1] *A. J. A.*, 1913, pp. 477-8.

[2] See Pl. 18, Fig. 7. I am indebted to the kindness of Dr. Zammit, director of the Malta museum, for the photograph and permission to publish the pendant. In the same tomb were found a pair of silver bracelets and fragments of two rings, and also bits of proto-Corinthian ware, which makes certain the dating in the 7th century B. C.

the surface, or in any case resting on the surface with no solder showing on the outer edge, thus producing the effect of high relief and a good sharp outline. In the case of the globe the granulations are not perfectly alligned and somewhat more solder than necessary was employed, so that the effect is not as good as on the best Etruscan specimens. The Egyptianizing details are common on Phoenician work of this period and often occur on the jewelry from Cyprus, Carthage and Sardinia[1].

Two pendants which are almost exact replicas of the one just described were found in the early cemetery of Douimès at Carthage[2] and date from the same period. In the same excavations were found several other pendants ornamented with granulations[3], some of which were evidently made at the same time and place as certain specimens from Tharros in Sardinia[4]. The Tharros jewelry is well represented in the British Museum, and it will suffice to refer to the catalogue of Marshall for comparisons. The excavation records are incomplete[5] and the dating is not always certain. The resemblance to the Carthage specimens, however, leaves no doubt in the case of the granulated pendants to which I have referred.

VII.

We shall next consider a few specimens of the granulated jewelry of the Etruscans of the same period. Reference was made above to the evidence in favor of local origin in the case of these objects. We have for example one well marked group of gold ornaments from Cervetri and Palestrina, and another from Vulci and Vetulonia, both dating from the 7th century B. C.; both of nearly equal technical excellence, and yet displaying marked differences in form and subjects represented. Doubtless here as elsewhere, workmen of similar training and possibly of similar origin adapted their product to local wants. The statement is made at times that the jewelry of this period must have been imported, because it is so much better from an artistic and technical standpoint than the other products of the same time. In answer to this two important facts should be noticed. In the first place, the other and doubtless local wares of the period are often of great beauty. A people who could produce the delicate egg-shell bucchero, which often rivals the best early pottery of the Greeks, had ability of no mean order. In the second place, it should be borne in mind that the majority of the specimens of ancient jewelry are not nearly so wonderful as the exaggerated praises of many writers would lead us to believe. Gold is so beautiful in itself that it takes a very poor workman to spoil it, and many

[1] MARSHALL, pp. xxviii-xxix.

[2] *Musées de l'Algérie et de la Tunisie,* VIII, i, *Carthage (Musée Lavigerie),* I, Pl. XXXII, 6-7.

[3] Ibid., Pl. XXXII, 8-16.

[4] MARSHALL, pp. xxviii-xxix.

[5] PINZA and NOGARA, *Museo Etrusco Gregoriano, Materiali per la etnologia antica Toscano-Laziale,* Vol. I, (Milano, 1915), pp. 424-5.

a specimen which at first sight dazzles us with its golden gleam, is found on closer inspection to be of rough and careless execution. If with this point in mind one glances through the plates in the catalogue of the British Museum, or better yet in the recent work of Pinza and Nogara on the Etruscan Museum in the Vatican [1], it is clear that the early gold jewelry of the Etruscans was produced by workmen who were past masters in the art of geometric decoration, and who had attained the greatest possible skill in certain technical processes, such as the art of producing and attaching the tiny granulations, but who, when it came to the representation of animal or human figures, were hampered by a lack of artistic ability. It is beyond the scope of this article to discuss the various forms of Etruscan jewelry and the motives employed. This must be deferred to another occasion. Certainly, however, the rows of tiny lions or chimaeras or birds on the much admired specimens from Cervetri [2] or Palestrina, or on the recently discovered fibula from Marsigliana [3], are heavy and clumsy when examined closely and lack both the finished execution and the feeling for form of the best Greek products.

VIII.

The granulated technique as employed on an object of the Cervetri-Palestrina group is well illustrated by a fibula in my collection which has been loaned to the Boston Museum [4]. The entire fibula, including the sheath, is 4.2 cm. long. The bow (1.4 cm. in length) is formed by a spirited representation of a team of mules, suggested by the two realistic heads with ears laid back, and decorated with granulated lines representing the bridle with the bit (or possibly only a piece of rope) passing through the mouth. There is but a single body. The legs, though merely suggested by two tapering tubes, are nevertheless braced in a pose characteristic of such obstinate beasts. The modelling has the real Greek feeling for line and form and is only equalled by a very few of the Etruscan specimens. The entire fibula is decorated with minute granulations of very perfect execution, as may be seen on Plate 19, on which are shown enlargements to 28 diameters of two sections [5]. The granulations are perfectly round and smooth, and are attached by a minimum amount of solder on little pedestals or ridges so that they stand out in high relief. The whole object glitters with a variety of reflected lights which are all the more accentuated by the deep shadows which this process makes possible. The whole effect is of indescribable beauty and must be seen to be appreciated.

[1] PINZA and NOGARA, *op. cit.*,

[2] See Pl. 16, Fig. 12, for a fibula which is now in the British Museum. Cf. MARSHALL, Pl. XVII, No. 1376.

[3] *Rendiconti dei Lincei*, XXI, pp. 315-30 and plate.

[4] See Pl. 19, Figs. 1–5. Described in detail in *J. R. S.*, 1914, pp. 17-25.

[5] See above p. 65, note 2.

Exactly the same technique occurs on many other specimens of the same date, the late 8th or the 7th century B. C. from near Rome, and now scattered through the various museums. The best examples are in three museums in Rome (the Etruscan Museum in the Vatican, the Museo Kircheriano and the Museo Villa Giulia), the British Museum in London, the Louvre in Paris and the Old Museum in Berlin.

In his catalogue of the Etruscan Museum in the Vatican [1], Pinza expresses the belief that at the time when the Regolini-Galassi tomb at Cervetri was opened in 1836, several of the golden ornaments were stolen, and came later into other collections. To his list of gold objects from Cervetri which are either from the Regolini-Galassi tomb, or of the same date, should be added two more pieces in the British Museum, on which the granulated technique is of the highest degree of excellence. One is a gold strip [2] 4.7 cm. long decorated with a curious meander pattern, or more exactly, a row of joined swastikas, formed of granulations in double rows. The granulations of this specimen are in places flattened as if by wear. The other piece is a gold strip [3] 4.8 cm. long, with three embossed crescents which are ornamented with radiating lines of granulations ending on the surface adjoining the crescents. Between the crescents and triangles is a meander pattern formed of double rows of granulations.

IX.

A similar technique is also found on a number of pieces from Vulci and Vetulonia, and in the case of one or two specimens from the last named site the art of granulation reached its acme of perfection. The differences in decorative details between these objects and those from other sites are too marked to admit of their having a common center of origin. The granulated technique, on the other hand, is very similar. The most marked characteristic of the jewelry from Vulci and Vetulonia is the employment as a decorative feature of small figures of men or animals formed of a solid mass of granulations all on the same plane. As was pointed out by Karo [4] in his publication of this jewelry, the granulated technique is best adapted for the production or accentuation of geometric designs. It was in the period immediately preceeding the 7th century B. C. that geometric ornamentation reached its highest state of development, and at this time also the workers in gold became exceptionally skilful. When, however, the orientalizing motives came into vogue and they attempted to reproduce them on their jewelry, they were at first much less successful in this new field, and we have as a result the clumsy representations of

[1] Pinza and Nogara, *op. cit,*. pp. 82-5; 373 ff.

[2] See Pl. 17, Fig. 4, from Marshall, No. 1262. Pl. XVI.

[3] See Pl. 17, Fig. 5, from Marshall, No. 1263, Pl. XVI.

[4] *Studi e Mat.*, I, pp. 280 ff.

birds and lions on the complicated fibulas when they worked in relief or in the round, or in the case of the Vetulonia objects, the animals formed of a solid layer of granulations. This last mentioned technique has many defects, as it neither permits of a sharp outline to the figures [1] nor of any modelling or suggestion of detail on their bodies. The animals thus formed are mere silhouettes, similar to the stamped figures on early bucchero. On the other hand they often have a most graceful outline, and on account of the relief given by the granulations and the beauty of the gold, produce a pleasing effect.

There is more variation in the size of the granulations in this technique and in some instances they are of almost incredible fineness. In this case however they lose the effect of strong light and shade given by the larger granulations and the result is not so good.

An excellent example of the coarser form of granulated technique is seen on a small pear-shaped pendant or bulla in the Museum of Fine Arts in Boston [2]. The height is 2.5 cm. The decoration consists of several bands with swasticas, triangles and zig-zags, all executed with double rows of granulations. In one band on the shoulder of the pendant is a row of men and horned animals in the above mentioned technique which represents the figures by a solid layer of globules on the same plane. The granulations which form the figures are very few in number, but they suggest very well two men leading one a bull and one a cow, with another bull between the two groups. The granulations are of fairly even size and close together. Some are raised on pedestals and some are on a considerable bed of solder. The whole effect is good. A curious feature of the decoration is the intentional selection of several granulations of different sizes and shapes to accentuate certain details. Thus the head of one of the men is of larger grains than his body, and the penis of the bull without a leader is represented by a single elongated granulation.

Of probably the same provenience and date as the last mentioned pendant are two bullae in the British Museum [3]. All three specimens are of exactly the same height, 2.5 cm. The bands of decoration are very similar except that in the London examples there are no human or animal figures.

The most interesting specimen displaying the characteristic Vetulonia technique is a large gold box or capsule from Vulci and now in the Antiquarium in Munich [4]. It con-

[1] A sharp outline cannot of course be given by a row of globules, no matter how perfectly alligned. On the other hand in the best specimens the granulations are very carefully placed so as to follow the outline of the figures in an unbroken row. In the case of several forgeries which I have examined the outer lines are irregular and the result is much less artistic.

[2] See Pl. 18, Figs. 4, 5, from photographs kindly furnished by Mr. L. D. Caskey. Fig. 6 is from an enlarged drawing and makes no pretense to absolute accuracy. It does however give the whole band of decoration and is therefore reproduced with the photograph.

[3] Marshall, Nos. 1446-7.

[4] See Pl. 17, Fig. 7, from Karo, *Studi e Mat.*, II, p. 138, Fig. 130. Cf. *ibid.*, pp. 138-9.

sists of an oval shaped receptacle 3.8 cm. long, 3.1 cm. wide and 1.5 cm. high, held by a massive gold claw or handle. The sides of the capsule are decorated with very delicate filigree bands. At the junction of the handle on either side is a heavy double spiral. The lid of the box is separate and is ornamented with numerous figures of men and animals formed of a layer of granulations as in the Vetulonia examples. The globules are of fairly even size and are smooth but not well rounded. Some have little hollows or ridges, and all are worn flat on top as if the box were long in use. They are, however, carefully attached, and the whole effect is good. The figures are in more varied attitudes than on the other objects, and deserve a special study. Milani[1] saw in them a representation of the celestial planisphere of the Etruscans, with the Twins, Heracles and the lion, Orion and the stag etc. Karo[2] more reasonably calls it a hunting scene in the midst of a wooded region, indicated by the stylized plants which grow in the spaces between the figures. It is somewhat dangerous to attribute motives to a prehistoric period, with no extant literature to act as a check and guide to our conclusions. Making all due allowance, however, for archaisms and inability to represent the human or animal figure, it would almost seem as if the artist had a humorous bent, and intentionally caricatured certain scenes of the daily life about him. The granulations which represent the figures are few in number, but the meaning is clear, and one easily recognizes one group representing a hard pressed man brandishing a lance and treading upon one serpent while at the same time he is being attacked by another and by two lions with open mouths and outstretched tongues. Nearby a bird has seized a frog in its bill, and a stag and deer wander through the forest. The following group represents two apparently much perturbed men, armed with spears, who are being attacked by another lion with open mouth. Adjoining these figures is a more prudent hunter who has taken the precaution of attaching a rope to the nose of a stag before attacking it with his lance. Back of this hunter a horseback, or more probably a muleback rider belabors with a club his beast which has evidently balked and stands immovable with ears thrown forward.

One noteworthy feature of the jewelry from Vetulonia is the employment at the same early date (end of 8th and 7th century B. C.) of another form of granulated technique marked by the use of extremely fine globules. Later on this practice became more common. In the ordinary specimens of this class not so much skill was required as in the case where coarser granulations were used. This is due to the fact that more solder was employed, in which the globules were simply imbedded, often in piled up masses, instead of receiving individual attention and isolation. The result was by no means as pleasing as in the case of the more brilliant contrasts given by the coarser grains. The only exception to this statement is found in several specimens from Vetulonia, to be

[1] *Studi e Mat.*, II, pp. 86-7.

[2] *Studi e Mat.*, II, p. 139.

mentioned later, where the very fine granulations are attached in regular patterns on a single plane and with incredible accuracy.

A good example of the finer grain technique is shown on the fibula from Rusellae of the so-called " serpentine " variety, now in the Metropolitan Museum in New York[1]. The bow (3.5 cm. in length) is of the complicated type which is very common among early bronze fibulae, and is described by Italian writers as " serpeggiante ". These fibulae have no spring at the junction of the pin and bow, the function of spring being performed by the three members of the bow, which, in the majority of cases, consist of two curved portions, one springing from the end of the pin and one from the sheath, and nearly meeting in the center, and a third more sharply curved member which bridges the gap left by the other two and thus acts in some degree as the spring. In the New York fibula the curved section which continues the spring is joined to the central member by a perforated, but otherwise solid cylinder at right angles to the main axis of the bow. Another cross-piece with spherical ends joins the central section to that adjoining the sheath. Projecting from these two last mentioned curved sections are four sharp points or spikes. The entire bow is decorated with numerous granulated lines and figures. The lines ornament the two cross sections (the cylinder and the piece with spherical ends), and the projecting spikes. The figures are placed on the three curved sections. They are much more drawn out and distorted than is usual in this technique. They follow the curves and are regarded as mere decorative fillings of the spaces. Some have lost all resemblance to animals and are nothing but curved masses of granulations.

The sheath is 5.4 cm. in length, 9 mm. in height at the bow end and 6 mm. at the other. It has a turned up flange for the reception of the pin, and is ornamented both front and back with a row of animals of the usual Vetulonia type, rather elongated winged figures, with more attention given to long graceful curves than to form. The wing has degenerated to a mere curved line. The bodies and necks are drawn out and curved and even the legs are of abnormal length. Interspersed among the animals are smaller figures suggesting birds and plants. The granulations are of fairly uniform size but are not well rounded. They are generally imbedded in much solder but are all on one plane. Quite a number of oval granulations occur, often at random, but in a few cases placed with apparent intent to accentuate some detail, as in the Boston pendant. Thus the first animal to the right on the outside of the sheath and also the one in the center on the back, have two such granulations at the place for the eye. The first figure at the left on the back of the sheath has one at the end of the nose. On the upturned flange on

[1] See Pl. 18, Figs. 1, 2 and 3, from photographs for which I am indebted to Miss Richter of the Metropolitan Museum. Several drawings from different points of view and a brief description of the fibula will be found in the article by Karo in *Studi e Mat.*, I, p. 245, Pl. V.

the back of the sheath is a zig-zag line of granulations. The flange conceals the lower part of the animals on this side.

The most important specimens of the Vetulonia jewelry are in the Archaeological Museum in Florence, and among them are several pieces which display the early granulated technique at its highest degree of perfection. The best of all is the long pin from the Tomba del Littore[1] upon the spherical head of which are several bands of decoration[2]. The animals and birds representated are of the usual types. The granulated decoration, on the other hand, is of a degree of fineness which has never been equalled. The granulations are of two sizes, are well rounded and are applied for the most part isolated on little individual pedestals without the customary arm of solder joining them one to the other. The smaller granulations are exceedingly minute and yet are applied in the same manner as the larger ones. The alternating of larger and smaller globules allowed the entire decorated space to be filled to the utmost advantage, and the effect produced is of wonderful accuracy and perfection. The unassisted vision cannot follow the precision of the workmanship, but the beholder instinctively feels that he is in the presence of one of the world's masterpieces.

For several centuries after the 7th century B. C. the granulated technique continued in vogue, both in Etruria and in the East, but the processes employed were different from those we have been discussing, and the jewelry itself was of another degree of artistic excellence. The later development of the art must therefore be made the subject of another chapter.

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[1] See Pl. 17, Fig. 1, and cf. *Studi e Mat.*, I, p. 268.

[2] An enlarged drawing of these is shown on Pl. 17, Fig. 2, from *Studi e Mat.*, I, p. 267, Fig. 36 a.

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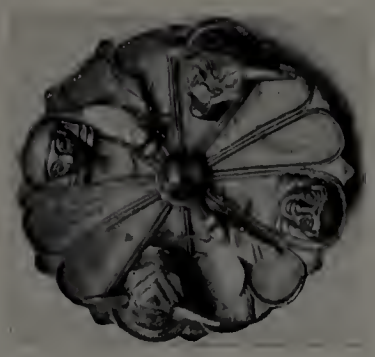
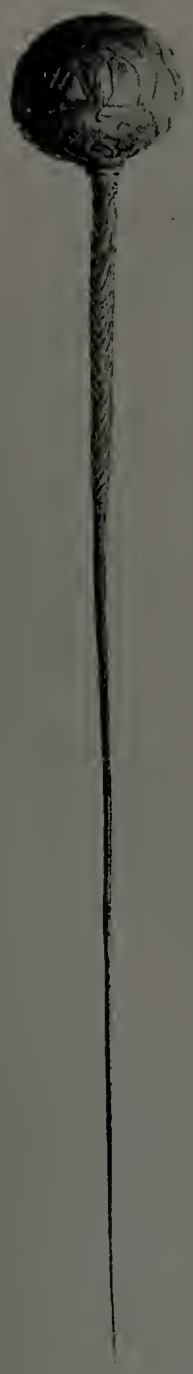


11.

10.

12.

1, 2, 3, 7, Cairo; 4, 5 (1/2 actual size), 8, 12, British Museum; 6, Constantinople; 9, 10, Berlin; 11, Bibliothèque Natinoale, Paris.



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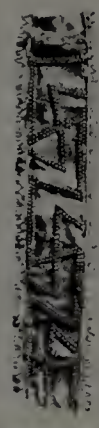

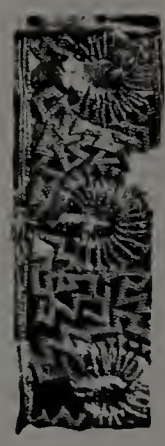

4, 5.

6.

7.

8.

1, 2, Florence; 3, Ethnographical Museum, Berlin; 4, 5, British Museum; 6, Louvre; 7, Antiquarium, Munich; 8, Louvre.

1.

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7 ($\frac{3}{4}$).

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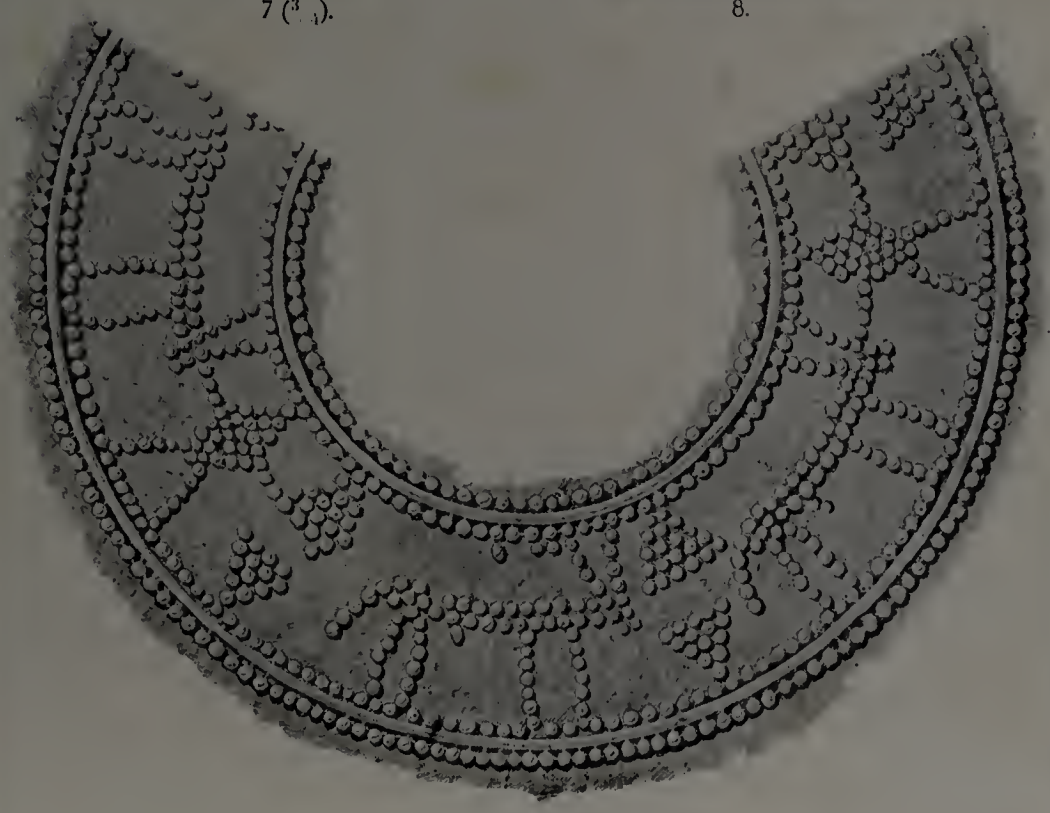
4.

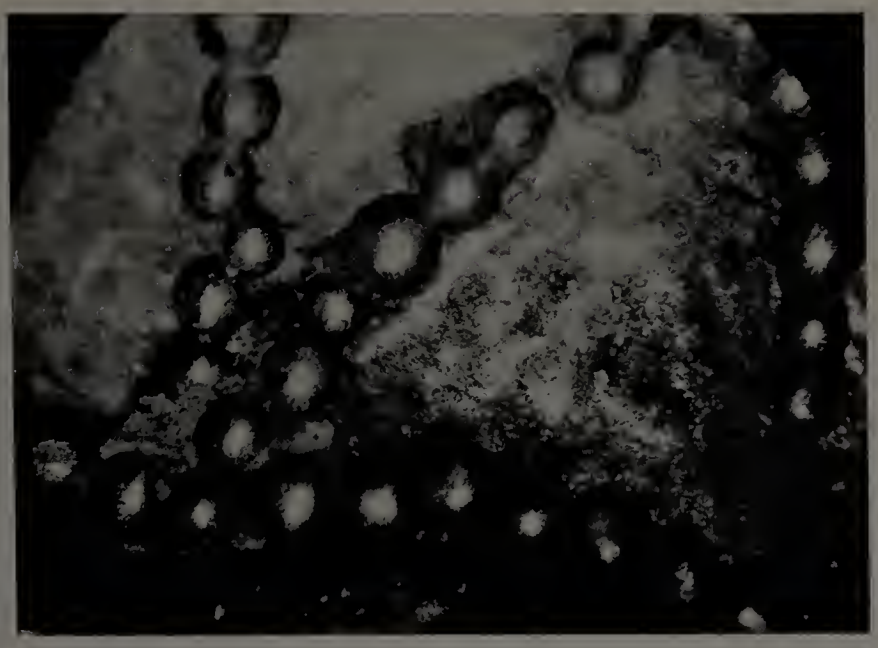


6.

5.

1-3, Fibula, *Metropolitan Museum, New York*; 4-6, Pendant, *Museum of Fine Arts, Boston*; 7, Pendant, *Malta*; 8, Bull's head, *Bibliothèque Nationale, Paris*.

1.



4.

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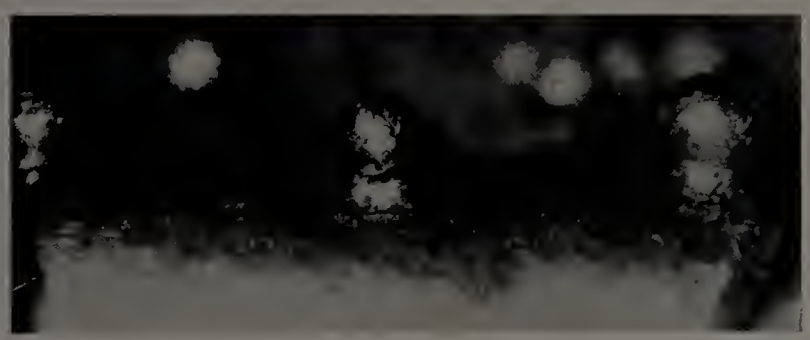

5.

3.

1-2, Fibula belonging to C. Densmore Curtis; *loaned to Museum of Fine Arts, Boston;* 3, Enlargement of same; 4, 5, Enlargements of granulations of same to 28 diameters.

BARTOLOMEO CAPORALI.

STANLEY LOTHROP.

(PLATES 20—48)

THE career of the Perugian painter, Bartolomeo Caporali, has up to this time received but slight attention from students of Umbrian art, and his works have never been completely catalogued[1]. Although a provincial artist whose influence counted for little in the general development of painting outside his native city, the fact that many of his works have been wrongly attributed to Fiorenzo di Lorenzo and other Umbrians, and his evident close contact with Bernardino Pinturicchio, would seem to make some study of Caporali's personality desirable. His smiling saints and lively transparent colouring cannot fail to please those who admire the freshness and decorative charm of the lesser Umbrian artists of the fifteenth century.

The earliest documentary[2] record of Bartolomeo Caporale, or Caporali, is his matriculation in the Guild of Painters at Perugia in the year 1442; which makes it probable that his birth took place during the second decade of the 15th century. In 1454 he received five florins for executing a *Pietà* and *Maestà* for the Sala of the Guild of Perugian Shoemakers. His name appears under the form of Bartolomeo di Segnolo alias Caporale in 1456 in regard to the purchase of a house in the vicinity of San Martino at Perugia; in 1458 he became treasurer of the Painters' Guild; and in 1462 *Priore* of his native city. In August of this year he decorated an altar-baldacchino for the Municipality, and in September he was again appointed treasurer of the Guild for the remainder of the year. Two years later the Monastery of San Pietro at Perugia paid him in grain for painting two tabernacles.

[1] Bibliography: BOMBE, WALTER, *Geschichte der Peruginer Malerei; Italienische Forschungen*, Band V, Berlin 1912, p. 113; MARIOTTI, ANNIBALE, *Lettere Pittoriche Perugine*, Perugia, 1788, p. 82; RICCI, CORRADO, *Rivista d'Arte*, Vol. II, 1904, p. 38.

[2] Documents: BOMBE, *op. cit.*, p. 324; GNOLI, UMBERTO, *Documenti Inediti sui Pittori Perugini*, *Bollettino d'Arte*, IX, No. V, Maggio 1915, p. 121.

In documents dated 1467 and 1468 Caporali in company with Benedetto Bonfigli acknowledged two half payments of fifty florins each for a triptych painted in the church of San Domenico at Perugia. This partnership of two painters of nearly equal age, and the strong resemblance existing between their earlier works, would tend to show that both had been educated under like influences, if not in the studio of the same master. In 1469 Caporali was elected *Capitano del Popolo* for six months; in the next year he purchased land, and jointly with his brother Giacomo, the miniature painter, bought a house in the parish of S. Fortunato. In 1471 the Apostolic Camera at Perugia paid him sixty florins for painting the arms of Sixtus IV on the Palazzo Pubblico and on the city gates; and in 1472 a sum for trumpet-banners. He was again elected treasurer of the Painters' Guild for the first half of this year. He purchased a house in the parish of San Savino in 1473; his name appears in 1474; and in 1476 he was appointed *Electionarius Capitanei* for six months. The following year he received a commission from the heirs of Niccolò di ser Jacopo to paint a *Pietà* for their chapel in the cathedral at Perugia[1].

On the death of his brother Giacomo in 1478 Bartolomeo Caporali was appointed to complete the former's term of office as treasurer of the Guild of Miniaturists.

This fact has led a recent writer[2] to include our artist among Perugian miniature-painters, and to attribute to him a miniature representing the *Annunciation* in the choral books of the Monastery of San Pietro at Perugia. Although what remains to us of

[1] " Actum Perusii in fundico heredum Nicolai ser Jacobi et sociorum mercatorum presentibus etc. Spectabilis vir Franciscus Petri de Randulis de Perusio p(*orte*) h(*eburnee*) tutor testamentarius Severi filii olim et heredis Guasparis filii olim et heredis Nicolai ser Jacobi de Perusio etc. Spectabilis vir Angelus Johannis quondam Juntini Mactheoli de Perusio p. s. p. actor domine Margarite eius filie et tutricis Jacobi filii olim et heredis predicti Nicolai ser Jacobi de Perusio etc. dederunt et locaverunt magistro Bartolomeo Caporalis de Perusio porte heburnee pictori presenti stipulanti et recipienti pro se et suis heredibus etc. ad fabricandum et pingendum quamdam tabulam ponendam super altare capelle heredum Nicolai ser Jacobi erigende in ecclesia Santi Laurentii modo forma et pactis infrascriptis videlicet.

Che sopra lo altare de la ditta Capella se debbia fare una Tavola de legname buono et sufficiente simile el lavorio la quale sia lungha piei cinque et mezzo o circha et alta piei doi et mezzo vel circha. Et ne la quale sia depinta in mezzo la pietà cum doi figure per lati sichè in tucto sieno figure cinque tucte lavorate a uso de buono et valente maestro cum buone et fine colore e cola predola a la dicta tavola et tucto el campo sia de oro fino. Item che sia tenuto el dicto maestro che depingerà la dicta tavola a fare doi altre tavolette per canto depinte cum doi agnoli per terra. Si che in tucto sieno agnoli octo facte al dicto modo et cum dicte colore et oro. Item che sia tenuto averlo fornito tucte le dicte depinture per tempo de mese diciocto proxime da venire comenzando el tempo a di primo de setembre proximo da venire 1477 et da finire como segueta. Item che le dicte herede sieno tenute a dare et pagare al maestro che depingerà le dicte tavole fiorini vintocinque a bolognini 40 (*pro*) fl. de tempo in tempo secondo lui lavorerà. Item che el legname che intrerà per fare le dicte tavole et predola la mità vada a le spese de le dicte rede et l'altra mità a spese d'esso maestro che le lavorerà.

Et promiserunt eidem magistro Bartolomeo ex parte et pro parte sponte adimplere et observare et solvere modo et forma prout in dicta cedola continetur. Et hoc fecerunt pro eo quia dictus magister Bartolomeus per se et suos heredes obligando etc. promisit et convenit dictis Francisco et Angelo Johannis etc. onmia in dicta scripta et capitulis contenta adimplere et observare. Renumptiantes etc. etc. " (*Arch. Not. Rog. Francesco di Giacomo Prot. 1477, c. 302*[t]).

[2] SERAFINI, ALBERTO, *L'Arte*, April 1912, p. 106.

Bartolomeo's work displays the minute care in detail, and the delicacy of finish peculiar to the early Umbrian School, neither his technique nor the above document would seem sufficient evidence to prove him a miniaturist; and the *Annunciation* in question has nothing in common with his forms, but rather resembles closely other miniatures in the same choral books attributed to Pierantonio di Niccolò.

Caporali held the office of *Priore* a second time in 1480, and in 1483 that of *Fancellus Massariorum Civitatis Perusii.* In 1484 his name occurs in the accounts of the Commune for such unimportant works as banners, panels for a baldacchino and the decoration of a " banco grande del cantorino ". In this latter commission a young assistant, a certain Lattanzio is also mentioned. In 1485 he was again appointed *Fancellus Massariorum;* and in this, and in the following two years he bought land and houses at Corciano, Castel Fratticciola, and Perugia. The polyptych [1] painted for Castiglione del Lago, the fragments of which exist in Perugia and Udine, formerly bore the date 1487 and Caporali's signature. In the same year, at the order of the Commune, he painted sixty trumpet-banners, for which he received twenty seven florins and twenty soldi.

Caporali is frequently named in the sacristy accounts of the Monastery of San Pietro, in 1487 he painted arms and the head of San Giovanni, and in 1488 he repainted the tower clock, completed a Madonna in fresco left unfinished by Pietro di Galeotto over the monastery doorway, and received two florins in payment for the figure of a St. Justina. In these accounts the name of his assistant Lattanzio again appears. There are several records concerning the dowries of Caporali's two daughters; in March of 1488 he bound himself to pay to his son-in-law, the tailor, Ippolito di Maestro Giovanni, the remainder of his daughter Candida's dowry, and at the end of the same month one hundred florins to Felice di Domenico di Puccio as the marriage portion of his other daughter Lucrezia. More banners were painted at the order of the Commune in 1488 and 1489, and in the latter year he assisted in the valuation of Pinturicchio's *Sposalizio* in the cathedral. In 1490 he paid thirty-five florins as the marriage portion of his niece, Angela Briganti. The fresco in San Francesco at Montone bearing Caporali's signature is dated 1491, and in this year there is also record of work executed in the palace of the Papal treasurer. In 1492 he held office in the Painter's Guild, and executed banners for the Commune; in 1493 he did other work for the Papal treasurer; in 1495 he decorated lances for the Priori; and in 1496 he bought land jointly with his son Pierlorenzo in the neighborhood of Villanova. Upon the death of his daughter Lucrezia's husband in this year, Caporali recovered fifty florins of her dowry, and in 1497 he promised to pay her second husband Ludovico di Francesco di Saluzio one hundred florins. In November

[1] See MARIOTTI, *op. cit.*

of this year he is named *Reveditore delle Ragioni* of the Fraternity of San Pietro in Perugia; and in 1499 his opinion is quoted by Fiorenzo di Lorenzo in judgment of work executed by Giannicola Manni in the Palace of the Priori. His daughter Candida married a second time in this year, taking for her second husband another Ippolito from Montefalco.

Bartolomeo Caporali's death must have occurred before the 8th of October, 1505, since a document of that date describes his son, a canon of San Lorenzo, as *Ser Camillus quondam Bartholomei Caporalis* [1]. In the year 1509 his heirs brought action against the heirs of Filippo de' Piccinelli to obtain payment for six painted *drappelloni* which Bartolomeo Caporali had supplied for the funeral of the latter. In the testament of Caporali's widow, Brigida di Giovanni Cartolari, dated 1521 she stated that she desired to be buried in San Agostino in Perugia beside her deceased husband; settled legacies on her daughters Claudia, Lucrezia and Laura; and mentioned as sole heirs her sons, Ser Camillo, Giampaolo, Giambattista, the artist, Eusebio, and the children of her deceased son Ser Pier Lorenzo.

In authenticated pictures for the identification of the artistic personality of our painter we are less rich than in documents, and the few existing works are both fragmentary, and in a poor state of preservation. Besides the ruined panels of the polyptych from Castiglione del Lago, which formerly bore Caporali's signature, and his signed fresco at Montone, there is still preserved in the Municipal Gallery at Perugia the triptych, which he painted together with Benedetto Bonfigli for San Domenico of that city. We can also with reasonable certainty attribute to Caporali the *Pietà* in the cathedral at Perugia, and the angels bearing the symbols of the Passion, which in all probability formed a part of the same *Pietà*. There exists likewise documentary evidence to prove that Caporali designed the fresco at La Rocchicciola near Assisi. However a comparison with the pictures mentioned above, and with other works to be attributed to him on account of similarity of style, would tend to prove that the execution of this unimportant fresco was left to some assistant, probably the Lattanzio mentioned in the documents.

The earliest of these authenticated pictures is the San Domenico altar-piece [2], payments for which were made equally to Caporali and Bonfigli. The triptych as it now exists without its frame, consists of a central panel representing the Madonna and Child enthroned and four musical angels; two side panels, to the left and right of the Madonna containing respectively St. Peter and St. Catherine of Alexandria, and Saints Paul and Peter Martyr; and two smaller panels representing the *Annunciation*. The Madonna and angels of the central panel possess the forms and the colour peculiar to Benedetto Bon-

[1] Document published by Adamo Rossi, *Arch. Stor. dell'Arte*, Rome, 1890, p. 465.

[2] Perugia, Municipal Gallery, Sala VIII, Nos. 3-7.

figli, and appear to be entirely the work of that painter. And, although the four saints [1] are somewhat more strongly modelled than is usual with Bonfigli, they are so like his other figures as to make it difficult to affirm that they belong wholly to Caporali, or to distinguish what parts were painted by him. He must however have had something to do with their execution as the painting of the two panels of the *Annunciation* would not explain the equal division of the profits [2].

In the two small figures of the *Annunciation* [3] we can distinguish details and a method of colouring, unlike other portions of this altar-piece, or any pictures which can be attributed to Bonfigli; and it would seem certain that we have here genuine works of Bartolomeo Caporali. In the panel to the right, the Madonna with arms crossed on breast, head bowed, and melancholy eyes half veiled by dark heavy lids, kneels, a timid reverent figure. In front is placed a reading desk with open book, and to the extreme right a portion of a throne. The background, reminiscent of designs of Benozzo Gozzoli and other followers of the Beato Angelico, consists of a coloured marble bench and low panelled wall with flower vase against gold. The long converging lines of the pavement give spaciousness to the composition.

The childlike Angel in the left panel with fluttering rose-coloured drapery kneels before the Virgin, and makes the usual gesture with the curiously long right hand, while supporting the emblematic lily in the left. A panelled wall and bench similar to those behind the other figure are here broken by a small doorway, giving a view of a roofed cloister and two infinitesimal cypresses.

Although both figures resemble the types developed by Bonfigli, they are truer in their anatomy, and are modelled with stronger chiaroscuro. We do not find here the elaborately arranged head-dresses or the garments *à la mode* peculiar to the former artist. The brilliant blue mantle and simple red tunic of the Virgin fall in long parallel folds, and the head is covered with a thin white veil. It is however in the expression of the faces, and in the peculiar transparency of colour, with its strong hint of gold in the flesh, that Caporali differs noticeably from Bonfigli. The large infantile eyes with hard blackish line under the upper lids, the sensitive mouth with trembling lower lip, the rich yellow hair executed with long parallel brushstrokes, and in the case of the angel finishing in spirals, the incised circular nimbus, lettered in black, and the overlong tapering fingers, are all details which we shall discover to be peculiar to Caporali. Here then we find a master, who was a close follower or companion of Bonfigli, and like him developed under the new influence emanating from Benozzo Gozzoli and the school of painters of Foligno.

[1] Pl. 20, Figs. 1-2.

[2] Bombe ascribes these saints to Caporali, *op. cit.*, p. 113; Berenson to Caporali and Bonfigli, *Central Italian Painters*, p. 154.

[3] See Pl. 21.

The second authenticated work by our painter is represented by the fragments of the great ancona painted for the church of S. M. Maddalena at Castiglione del Lago in the year 1487. This altar-piece as described by Annibale Mariotti [1] in 1788 contained the Madonna and Child enthroned, and at the sides the Magdalen, St. Anthony Abbot, St. Sebastian and St. Roch. Above were four angels crowning the Madonna. The ancona bore the inscription: PIXIT BARTHOLOMEUS CAPORALIS DE PERUSIA. And below: QUESTA OPERA ANO FACTO FARE CACCIADORE DE CASTIGLIONE DE LAGO A. D. MCCCCLXXXVII. Three fragments [2] of this altar-piece, the heads of the Magdalen, St. John the Evangelist, and an angel, the latter two now unfortunately placed one above the other and framed together, are preserved in the Perugia Gallery. Two half figures [3] representing St. Anthony Abbot and an angel, which certainly formed a part of the same composition, were lately discovered in the Palazzo Civico at Udine. The ruined head of the Magdalen, with a trace below of her vermilion robe, still shows the fineness of execution and childlike expression of the figures in the *Annunciation* panels. The forms are rounder and better modelled, and resemble less those of Bonfigli; but the treatment of the rich reddish hair with its strong lights, the large eyes almost concealed, and the form of the nimbus are the same as in the earlier work. Behind the figure is a portion of stylobate with frieze, a Florentine motive, also used by Bonfigli [2]; and in the lower corner of the panel an arrow confirming Mariotti's description of a St. Sebastian.

The fragment containing the head of St. John the Evangelist with incised nimbus and name in black characters is perhaps the finest in execution of any of the works attributable to Caporali. The head thrown against a variegated marble background has flesh tints of extraordinary transparency and fusion. The blond hair terminating in spirals is plainly derived from Benozzo.

The head of the angel in the third fragment of the Castiglione ancona is represented against a brocade background of red and incised gold pattern. This figure, gazing downward and bearing the inscription: ADORAMVS TE CRIS, was probably one of the four angels crowning the Madonna described by Mariotti, and the brocade formed the background of the throne.

The St. Anthony appears coarser in technique than the fragments of the Perugia Gallery. However our artist is easily recognizable in the heavily marked eyes, the small smiling mouth with short lower lip, and in the hair and beard executed with long parallel brush strokes. The figure carries in the right hand the symbolic staff and bell, behind

[1] *Op. cit.*

[2] See Pls. 22, 23. Perugia, Pinacoteca, Sala IX, 11, 12.

[3] Cp. U. Gnoli, *Una tavola di B. Caporali*, *Bollettino d'Arte*, 1916.

which is a fragment of drapery, probably the robe of an angel at a higher level. The background shows the same stylobate with decorative frieze that appears in the fragment of the Magdalen.

The expression and pose of the angel in the Udine panel repeat almost exactly the latter saint, and the hands raised in adoration have the same tapering fingers as the angel of the St. Domenico altar-piece.

Passing over for the moment the *Pietà* in the Cathedral at Perugia and the Madonna at La Rocchicciola (Assisi), the only other authenticated work of our master is the fresco in San Francesco at Montone near Umbertide, which bears the inscription: - CARROLVS BRACCI GENIT: OB NATV SIBI FILIVM EX VOTO: DIVO ANT ARAM: & SACELLV ERIGI INSTITVIT. QVO EXTINCTO: BERNARDINV FIL: OPV COMPLERI MANDAVIT. 1491 - BARTOLOMEVS CAPORALIS PIN.

Carlo Fortebraccio, lord of Montone, vowed at the birth of his son Bernardino to dedicate a chapel to St. Anthony of Padua. The vow, however, was not fulfilled until after Carlo's death by Bernardino himself, who called Bartolomeo Caporali to execute the decorations.

The fresco [1] in the form of a lunette represents St. Anthony in glory, flanked to the left and right by St. John the Baptist and the Archangel leading the little Tobias; floating angels with arms crossed on breast fill the space above; and at the feet of the saint, kneeling putti support an inscription. St. Anthony is surrounded by a conventional mandorla with border of seraphim heads, an Umbrian motive peculiar to Perugino. The figure is badly constructed, and the coarse features, injured by repainting, lack the delicate transitions between the lights and darks, and fusion of tones to be found in Caporali's earlier pictures. The Baptist and Archangel are drawn with more accuracy, and both the little Tobias clinging with one chubby hand to the finger of the Archangel, and grasping a huge fish with the other, and the plump putti of the foreground, would seem to be studies from life. The floating angels however still resemble the types of Bonfigli, and the Archangel has the same conventional arrangement of hair terminating in spirals, and childlike features as in the little figures of the Annunciation panels. The yellow mantle of this figure, and the gold nimbuses and parti-coloured wings of the angels contrast pleasantly with the azure background, and give dominating notes of blue and yellow to the composition.

In this fresco more than in the Castiglione fragments Caporali modified his earlier manner in an effort to follow Perugino and his School, but notwithstanding his improvement in the construction and chiaroscuro of the figures, his execution here lacks the refinement in details and vivacity of tints which constituted the charm of his earlier work.

[1] Pls. 25, 26, Figs. 1, 2.

Through a comparison with these few authenticated pictures we are able to recognize Bartolomeo Caporali's spirit and peculiar conventions in many other paintings. Earliest in such a list, because of its close relationship to the School of Bonfigli, I would place the little panel picture in tempera now in the Uffizi Gallery[1], representing the Madonna and Christ Child adored by four angels. The Madonna seated on clouds supports the Infant with the right hand, and delicately clasps his foot with the left. The Child entirely nude, except for a thin veil thrown about the limbs, raises his hand in benediction. The four adoring angels, two and two on either side, form with their long wings a frame to the central group against a background of gold.

Although the figures of this panel resemble closely Bonfigli's Madonna and Angels of the San Domenico triptych, they are less slender, are modelled with stronger relief, and have more facial expression. The rather full curve to the cheek, short chin, large eyes with dark lids, and very small mouth give to the faces the almost infantile character peculiar to Caporali's heads. As in the kneeling Virgin of the *Annunciation* panels the Madonna's deep blue mantle, bordered with a narrow line of ermine, falls in long straight folds over a simple crimson tunic, and the head is further covered with a transparent veil. The angel in the upper left hand corner reproduces the Announcing Archangel, and such details as the arrangement of hair in minute curls, and the drawing of the hand with exaggerated length of fingers, and thumb of over small diameter, are repeated in both pictures.

The Perugia Gallery contains a fresco, which was removed to canvas from the walls of the Convent of St. Giuliana, and which has been rightly ascribed to Caporali. The picture[2], which is in the form of a lunette elevated on a base imitative of marble, represents the glorified figures of Christ and the Madonna enthroned in a rainbow-coloured mandorla, supported by four floating angels. At the feet of the sacred group is a suggestion of hills and rocks, and in the foreground the empty tomb with growing roses. The base is decorated with three quatrefoil panels containing half figures of St. Giuliana, St. Benedict and St. Bernard with their names inscribed. Below these figures is the date: A.D. MCCCCLXVIIII; and the inscription: HOC OPUS FECIT FIERI SOROR BENEDITTA SOROR MONASTERII SCE IVLIANAE.

The youthful Redeemer with his hand raised in benediction recalls Bonfigli's Christ[3] and St. Bernardino of the banner in the same gallery, but Caporali has given the figure

[1] Pl. 27, Florence, Uffizi.
[2] Pls. 28, 29, Figs. 2, 3. Pinacoteca, Sala IX, 8.
[3] Perugia, Pinacoteca, Sala IX, 1.

stronger relief, and has arranged the rose coloured mantle in simpler and more natural folds. The Madonna in white brocade robe bordered with gold and black, and the childish heads of the angels with polychrome wings are counterparts of the figures of the *Annunciation* and Uffizi panels. The details repeat the peculiarities already described; the large eyes with dark lids and the deep crimson lips contrast strongly with the warm flesh; the hands have long attenuated fingers; and the gold hair is arranged in conventional ringlets.

Although Caporali is here not altogether successful in his attempts to express violent movement in the floating figures, he has succeeded in giving them a very real sense of youthful vitality.

There is also preserved on canvas in the same gallery a portion of the fresco decoration [1] of the chapel vault in St. Giuliana which represents the Heavenly Father in benediction. The figure, wrapped in a rose-coloured mantle, is encircled by a heavy laurel wreath against a background of green with black stencil pattern. The rather youthful head with abundant white hair resembles closely the Christ in the lunette.

In these frescoes and in the small panel at Florence Caporali follows so nearly the invention of Bonfigli, as to suggest the possibility that they may have been produced in the latter's studio. The frescoes however seem slightly later, and show more strongly Bartolomeo's own peculiar personality.

A panel of extraordinary fineness, which, because of its resemblance to the Castiglione fragments, may have been painted after the St. Giuliana fresco, is the Crucifix [2] existing in the parish church on Isola Maggiore in the Trasimene Lake. The arms of the cross terminate in small panels representing the Madonna, now nearly destroyed, and St. John the Evangelist; at the top, above the sacred initials, are the half figures of the Archangel Michael, St. Jerome and St. Leonard; and embracing the base a kneeling Magdalen and St. Francis. The figure of Christ is wooden and badly articulated; the arms are extended at right angles, and hold the body stiffly upright.

In Sant'Antonio at Deruta a half ruined chapel contains frescoes [3] usually ascribed to Fiorenzo di Lorenzo, but which undoubtedly should be listed among the earlier works of our master. Over the altar is a representation of the *Madonna della Misericordia*, with the iconography peculiar to the Umbrian *gonfaloni*. The Madonna protects in her ample mantle the little inhabitants of Deruta, grouped about their miniature town, against the vengeance of Heaven; and in the foreground the kneeling St. Francis and St. Bernardino supplicate Our Lady in behalf of the faithful. The fresco is framed by a band of laurel leaves, a motive adopted from the *gonfaloni*, and frequently used by Caporali.

[1] Pl. 29, Fig. 1. Perugia, Pinacoteca, Sala IX, 14.
[2] Pl. 30.
[3] Pls. 31-34.

The Madonna has the high forehead, great staring eyes, and receding chin of the Virgin in the St. Giuliana fresco, and the avenging angels sweep forward with exactly the same forced movement as the lower figures in that picture. Caporali copied the types of St. Francis and St. Bernardino from a panel[1] which Niccolò da Foligno painted for the church of S. Francesco at Deruta in the year 1457. It represents the Madonna and Child surrounded by a choir of Angels, and adored by St. Francis and St. Bernardino kneeling in the same attitude as in the Sant'Antonio fresco. Caporali however has improved on his models, giving to the Saints better proportions, more natural gestures, and stronger relief. The small citizens of Deruta are executed with great care and individuality of expression. The figures to the left are repainted.

In the centre of the vault the Eternal Father is represented in a polycrome aureola against a background of blue, studded with gold stars, and in the angles are the four Evangelists with their appropriate symbols. The central figure however is entirely repainted, and the Evangelists with the exception of St. Luke retain little of their original colour. The head of the latter, which resembles the Christ in the St. Giuliana fresco, preserves its original golden tints.

Possessing as it does Bartolomeo Caporali's forms and gamut of colours, this fresco has nothing whatever to associate it with the work of Fiorenzo di Lorenzo. The figures lack this artist's force of relief and are less nervous in outline. The flesh tones are entirely without the element of *verde,* and the harsh contrasts of light and shade to be found in all of Fiorenzo's pictures. Although as yet unaffected by influences from Pietro Perugino or his followers, Caporali already displays in this fresco an understanding of figure painting beyond Bonfigli and other contemporary Umbrian artists, and may in some degree be considered as the precursor of Perugino's School.

Another *Madonna della Misericordia*[2], this time a *gonfalone* in tempera, bearing the date of 1482, is preserved at Montone in the same church as the later signed fresco of St. Anthony. Although the banner has been variously attributed to Bonfigli and Fiorenzo di Lorenzo, both in its general conception and in the characterization of the individual figures it repeats the Deruta fresco, and must obviously be the work of the same artist.

As in Deruta the Madonna protects with her blue mantle the citizens of Montone against the arrows of an avenging Christ and angels. To the left St. Sebastian, St. Francis, St. Biagio and the Baptist; and to the right St. Bernardino, St. Anthony, St. Nicholas of Bari and St. Gregory make intercession for the faithful; and at the base is

[1] Preserved in the Municipal Gallery at Deruta. Niccolò da Foligno in his turn probably borrowed this motive from Benozzo Gozzoli's panel of the Madonna with Saints Francis and Bernardino now in the Hofmuseum at Vienna.

[2] Pls. 35; 36, Figs. 1-3.

repeated a view of Montone, with visions of the Madonna and St. Francis, its protectors, and the symbolic figure of Death with his scythe.

The Madonna is typical of Caporali's other representations, and St. Bernardino reproduces the same saint at Deruta. The design for the St. Sebastian Caporali borrowed from a *gonfalone* of Bonfigli existing in the church of St. Francesco at Perugia, and a comparison of the two figures shows clearly how far our painter had advanced beyond his contemporary. As in the small figures in the Deruta fresco he treated the little inhabitants of Montone with considerable variety and charm, and he may well have portrayed individual personages. Although the figures in this picture retain the naïve expressions, dark prominent eyes, and overlong fingers of Caporali's earlier works, their better proportions and stronger chiaroscuro make it seem probable that he had already had some contact with Perugino.

We also find Caporali's peculiar tonality in the half figure of the Madonna[1] bearing the date 1484 in the Naples Museum. Although reversed this group repeats the early[2] Madonna of Pinturicchio in London. In the cartoon of both pictures the Madonna supports the Child erect in attitude of benediction on a low panelled balustrade. In Caporali's composition however an elaborate brocade pattern takes the place of the landscape background. The similarity of types with the Montone fresco is everywhere apparent; the head of the Divine Infant repeats the little Tobias and the putti of this fresco, and the awkwardness in the drawing of the right hand of the Virgin occurs in the gesture of the Archangel. Underneath the thick repainting of the panel in the foreground the forms of letters of an inscription or signature can still be discerned.

The heirs of Niccolò di Ser Jacopo, as we have seen, gave to Bartolomeo Caporali the commission for an altar-piece on wood for their chapel in San Lorenzo, the cathedral of Perugia, desiring him to represent a *Pietà* in the centre, with two saints on either side against a background of gold; and to paint four small panels with two angels bearing the Symbols of the Passion in each. The terms of the contract, which was dated the 12th of August 1477, demanded that the work be completed within eighteen months.

The four panels[3] in the Perugia Gallery representing angels with the Instruments of Our Lord's Passion, although generally attributed to Bonfigli, answer exactly to the requirements of Caporali's commission, and the verses exposed on scrolls would seem to prove that they belonged to a *Pietà*. Originally all of these panels were of the same dimensions, and each contained two angels, but two have been reduced in size and the figures mutilated. While repeating Bonfigli's types the improved proportions and exag-

[1] Pl. 37, Fig. 2.

[2] Pl. 37, Fig. 1. London, National Gallery, No. 703. An unfinished replica is also preserved at Trevi.

[3] Pl. 38, Figs. 1-4. Perugia, Pinacoteca, Sala IX, 2, 7, 9, 17.

gerated facial expressions of these angels correspond to our painter's fresco at Deruta, and recall the little St. John in the Isola del Lago Crucifix.

In San Lorenzo itself there still exists a *Pietà*[1] on panel without Saints. It is of different proportions from the measurement demanded by the contract, and bears the date 1486. Although this picture has been generally attributed to Fiorenzo di Lorenzo, its forms are impossible to reconcile with the signed tabernacle of that artist executed the following year; and its manifest similarity to the works that we have already examined is sufficient to prove beyond a doubt Caporali's authorship. A recent writer[2] therefore maintains that the *Pietà* together with the four small panels of the Perugia Gallery formed the altar-piece mentioned in the contract of 1477; and that, like so many other commissions for which documents exist, the work was not undertaken until several years after the original contract, the terms of which were modified. The principal argument against such an hypothesis is the more primitive character of the angels, which would seem to have been executed at about the time of the original contract.

The *Pietà*[3] represents the Madonna seated on a marble bench, and gazing with great melancholy eyes on the youthful form of her Divine Son supported on her knees. In the background is the usual brocade drapery, and a marble panelled stylobate bearing the date MCCCCLXXXVI. Although the Christ in this picture is still wooden and badly proportioned, the features of both figures have a new softness and roundness, the hands are less attenuated, and the drapery falls in broad simple folds. As in the earlier pictures, the details are executed with exquisite delicacy; the ruby drops of blood sparkle like gems, and a variety of tiny flowers sprinkle the foreground.

In a fresco[4] on canvas removed to the Perugia Gallery from the Convent of S. Giuliana, Caporali repeated the group of the Cathedral *Pietà* with a landscape background, and added to the composition the figures of St. John and the Magdalen. The striking likeness existing between these saints and the Castiglione fragments, especially the panel containing the head of the Magdalen, is yet another proof for the attribution of the *Pietà* to our master. Resulting perhaps from the difference between fresco and tempera painting, the nude figure of Christ seems less stiff, and the expression of the Madonna more suave than in the Cathedral picture. The figures are no longer the meagre angular models of Bonfigli, and their softer outlines, derived from the new and more gracious school, accord well with Caporali's gentle spirit. Here he makes no attempt to express vivid emotion, and the innocent faces of St. John and the Magdalen half smile through their jewel-like tears.

On the 26th of November 1487 Bartolomeo Caporali received payment of nine and

[1] Pl. 39.
[2] Bombe, *op. cit.*
[3] Pl. 39.
[4] Pls. 40; 44, Fig. 2. Perugia, Pinacoteca, Sala X, 8.

one-half florins from the Notary Evangelista di Francesco de' Rossi for a *Pietà*, which he had painted on the outside of the latter's house at Petrignano (Assisi), and for a Madonna and saints in the small church of the neighbouring Castello della Rocca (now La Rocchicciola).

In the villa which formerly belonged to the Rossi family an outdoor shrine contains a 16th century Madonna in a square niche, and at the sides traces still remain of half concealed figures in the style of Caporali. It seems probable that the present wall was constructed in front of Caporali's *Pietà* in order to create a fresh surface for the later Madonna.

The fresco [1] in San Francesco at La Rocchicciola, representing the Madonna and Child enthroned with Saints Jerome and Anthony of Padua, and the kneeling figure of the blessed *Johannes de Lucca*, remains intact; and bears the arms of the Rossi family, and the ruined inscription: EVANGELISTA DE R[*ubei*]S.

However without the recorded fragment and inscription, the design of this fresco would be easily recognized as belonging to our painter. The Madonna resembles the Madonna della Misericordia of Montone; and the features and proportions of the Christ Child repeat those of the Naples panel, and occur again on a later banner at Civitella d'Arno near Perugia. The arrangement of bench and drapery recalls the motive of the Cathedral *Pietà*, and even the stenciled background was employed behind the Paternal Father which decorated the vault of St. Giuliana.

It would seem, nevertheless, that Caporali left much of the execution of this fresco to some studio assistant, possibly the Lattanzio mentioned in the archives of the Monastery of St. Pietro at Perugia. The attenuated figures, almost without relief, and heads characterized by staring, almond-shaped eyes, and large ears, do not occur in other works attributable to Caporali. This assistant also painted in fresco a votive St. Magdalen in the same church.

Although almost entirely repainted, a fresco [2] in the church pertaining to the Monastery of Monte l'Abate near Perugia shows Caporali's characteristic types and arrangement. An architectural niche with pediment and pinnacles contains the Madonna and Child surrounded by a mandorla, and flanked by St. Antony Abbot and St. Dominic, while beneath St. Sebastian and St. Roch kneel in the midst of the tiny worshippers. The splay of the arch is decorated with medaillions containing half figures of Christ, prophets and sibyls, and two larger medaillions in the spandrels figure the *Annunciation*, reversing the usual positions. The pediment contains God the Father in the act of benediction, encircled by seraphim.

[1] Pl. 41.

[2] Pls. 42, 43; 44, Fig. 1.

Caporali here combines Perugino's motive of the Glorified Madonna adored by saints with the traditional banner of the Misericordia. The groups of penitents repeat the compositions of the Madonnas of Deruta and Montone, while the two kneeling saints, although better proportioned, reproduce the Saint Sebastian in the latter picture. The whole composition is framed by laurel leaves.

Notwithstanding the repainting, the Madonna and Child resemble Caporali's other representations, but both figures are more imitative of the manner of Pinturicchio. The likeness to this artist is very clearly marked in the graceful and well-proportioned Virgin and Angel of the *Annunciation*, recalling his treatment at a later date of the same subject in the S. Maria dei Fossi altar-piece [1], and we find amongst the supplicants a curious caricature-like profile of an old woman, which occurs in Pinturicchio's Aracoeli frescoes.

At Monte l'Abate, corresponding to the Caporali Madonna, is a second niche frescoed with a Crucifixion in the manner of Fiorenzo di Lorenzo, which bears the date 1492. As the scheme and decoration of both niches are the same, it would appear probable that they were executed at about the same date. Professor Zampi in his comprehensive monograph on Monte l'Abate cites a document relating to this fresco and dated 1488 [2], which seems to prove that Caporali invented the motive.

Another work to be attributed to our master is the banner [3], figuring the Madonna with St. John the Baptist, St. Sebastian, and adoring angels, preserved in the parish church at Civitella d'Arno near Perugia. On the steps of the throne is the inscription; FRATER SÂTES FECIT FIERI Å-D-M-CCCC LXXXXII. The general arrangement of this picture is like the fresco at La Rocchicciola, and the Divine Infant has the same features in both representations. The Madonna repeats the type of the Misericordia banner at Montone; and the St. John accords closely with the same Saint in the Glorification of St. Anthony at Montone painted in 1491. The athletic and well proportioned St. Sebastian of the Civitella banner was evidently modelled from Perugino's saint at Cerqueto.

In the chapel of the hospital at Corciano is a Madonna [4] adoring her sleeping Child with Saints Sebastian and Nicholas, which, although ruined by repainting, still suggests the types peculiar to Caporali. The central group repeats the cartoon of the Virgin between angels in the Palace of the Conservatori at Rome, attributed by a recent writer to Antonio da Viterbo [4], but forms and colour are dissimilar, and both artists may well have borrowed this motive which became very popular in Umbria at the end of the

[1] Perugia, Pinacoteca, Sala XVII, No. 1.

[2] The author has been unable to verify this document.

[3] Pl. 45, 46.

[4] Adolfo Venturi, *Storia dell'Arte Italiana*, Vol. VII, Part II, p. 714.

15th century, from some greater original [1]. The Corciano fresco bears the date A.D. MCCCCLXXXXIIII.

During the latter part of his career Caporali inspired several imitators, who followed more or less closely the master's models. We have already suggested that he was assisted in the fresco at La Rocchicciola, and that this assistant painted votive figures of the Magdalen and St. Anthony Abbot in the same church. Another fresco of a Madonna and angels [2] at La Rocchicciola reflects Caporali's manner, and this other follower probably executed a large Madonna enthroned in the church of S. Antonio at Bastia (Assisi). Another inferior disciple executed the Virgin and Saints [3] on panel in the church of S. Francesco at Corciano, and may well have assisted our master in the hospital of that town, as the two Saints flanking Caporali's Madonna, and a votive Saint Anthony Abbot in the same chapel appear badly designed under the repainting, and have the same angular features and misshapen hands as the figures in the San Francesco panel [4].

Although it is not difficult to trace influences which affected Caporali's development, we have no certain knowledge concerning his earlier education. Little is known of Perugian artists of the preceding generation, and their few existing pictures appear weakly imitative of Sienese contemporaries, who probably executed the more important commissions. In the year 1403 we find Taddeo di Bartolo at Perugia, painting a *Descent of the Holy Ghost* [5] for the church of Sant'Agostino, and completing other works for the churches of San Francesco [6] and San Domenico [7]; and again in 1438 his pupil Domenico di Bartolo painted an altar-piece [8] for the Convent of St. Giuliana. But while imbued with the decorative sense of the Sienese School, Caporali could not have studied the works of the Florentine painters, Fra Angelico and Domenico Veneziano, without benefiting from their greater knowledge of figure painting, and the laws of perspective. Fra Angelico painted a large *ancona* [9] for San Domenico, which probably belongs to the thirties, and Domenico Veneziano worked in the Palace of the Baglioni in 1438.

[1] The same composition reversed is repeated in the Virgin which formerly occupied the lunette on the Porta S. Giacomo of Assisi, (removed to the Pinacoteca) and in the fragment by F. Melanzio in S. Francesco at Montefalco.

[2] Pl. 47.

[3] Pl. 48.

[4] Other works which have been ascribed to Bartolomeo Caporali:

Berlin, Kaiser Friedrich Museum, No. 137a, *Madonna* - (Attributed by B. Berenson).

Boston, Mrs. Gardner's Col., *Death of the Virgin* - (Florentine School).

Castelnuovo (Assisi), frescoes - (Follower of Pinturicchio).

Fanciullata (Deruta), *Madonna and Angels* - (School of Benozzo Gozzoli).

Florence, Mr. Herbert P. Horne, *Madonna* - (Attributed by B. Berenson).

Horsmorden, Capel Manor, Mrs. Austen, *Madonna with Musical Angels* - (Attributed by B. Berenson).

London, Mr. Henry Wagner, *Madonna and Angels* - (Attributed by B. Berenson).

Passignano, S. M. in Valle, fresco, *Madonna and Angels* - (School of Bonfigli).

Perugia, Municipal Gallery, *Madonna and Angels* - (School of Benozzo Gozzoli).

[5] Perugia, Pinacoteca, Sala V, 18.

[6] Perugia, Pinacoteca, Sala V, 21 and 23.

[7] Frescoes—destroyed.

[8] Perugia, Pinacoteca, Sala VI, 1.

[9] Perugia, Pinacoteca, Sala VII, 1-18.

As the conventions common to both Caporali and Bonfigli at the period of their partnership in San Domenico were retained by Bonfigli throughout his career, it would seem probable that his was at first the dominating influence. Benozzo's frescoes at Montefalco executed in 1452, must have furnished models for both painters, and Caporali was also attracted by the exaggerated emotion of Benozzo's most apt pupil in Umbria, Niccolò da Foligno, and attempted unsuccessfully to give to his figures the agonized expressions of that artist.

Caporali must also have come in close contact with Fiorenzo di Lorenzo to whom many of his important pictures are still attributed. The pose and peculiar form of the Christ Child in the votive fresco at La Rocchicciola appear in Fiorenzo's picture at Frankfort[1] and in a detached fresco[2] attributable to him in Perugia.

Pietro Perugino and Pinturicchio influenced our painter throughout his later career, but like many lesser Umbrian artists he understood better the prettiness and intimacy of Pinturicchio's style than the more abstract conceptions of Perugino[3]. A recent biographer of Pinturicchio has therefore suggested the probability that Caporali was that painter's master, and if we could prove the Naples Madonna to be earlier than Pinturicchio's representations of the same subject in London and Trevi, we might assume some such relationship between them. It seems more likely that Caporali, who did not hesitate to borrow motives from his other contemporaries, reproduced the designs of Pinturicchio. However the colouring and technique of these two painters is strikingly similar, and it is not improbable that Caporali may have exerted some influence over the youthful Pinturicchio, who later became in his turn the instructor of his master. But however little our painter may have moulded the style of the illustrious Perugians of the next generation, he improved upon the angular models of his contemporaries, and gave to his compositions both sincere feeling and decorative charm.

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[1] Frankfort on Main, Städel Gallery, *Madonna and Saints.*

[2] Perugia, Pinacoteca, Sala X, 10, *Marriage of St. Catherine.*

[3] Corrado Ricci, *Pinturicchio*, Perugia, 1912, p. 8.

Fig. 1, *St. Peter and St. Catherine.*

Fig. 2, *St. Paul and St. Peter Martyr.*

Perugia, *Pinacoteca,* BONFIGLI and CAPORALI.

CAPORALI, *Annunciation*. Perugia, *Pinacoteca*.

CAPORALI, *The Magdalen*. Perugia, *Pinacoteca*.

CAPORALI, Two fragments: *Head of St. John* and *Head of an Angel*.
Perugia, *Pinacoteca*.

Fig. 1, *St. Anthony Abbot.*

Fig. 2, *Head of an Angel.*

CAPORALI, Udine, *Palazzo Civico.*

CAPORALI, *St. Anthony in Glory.* Montone (Umbertide), *Church of S. Francesco.*

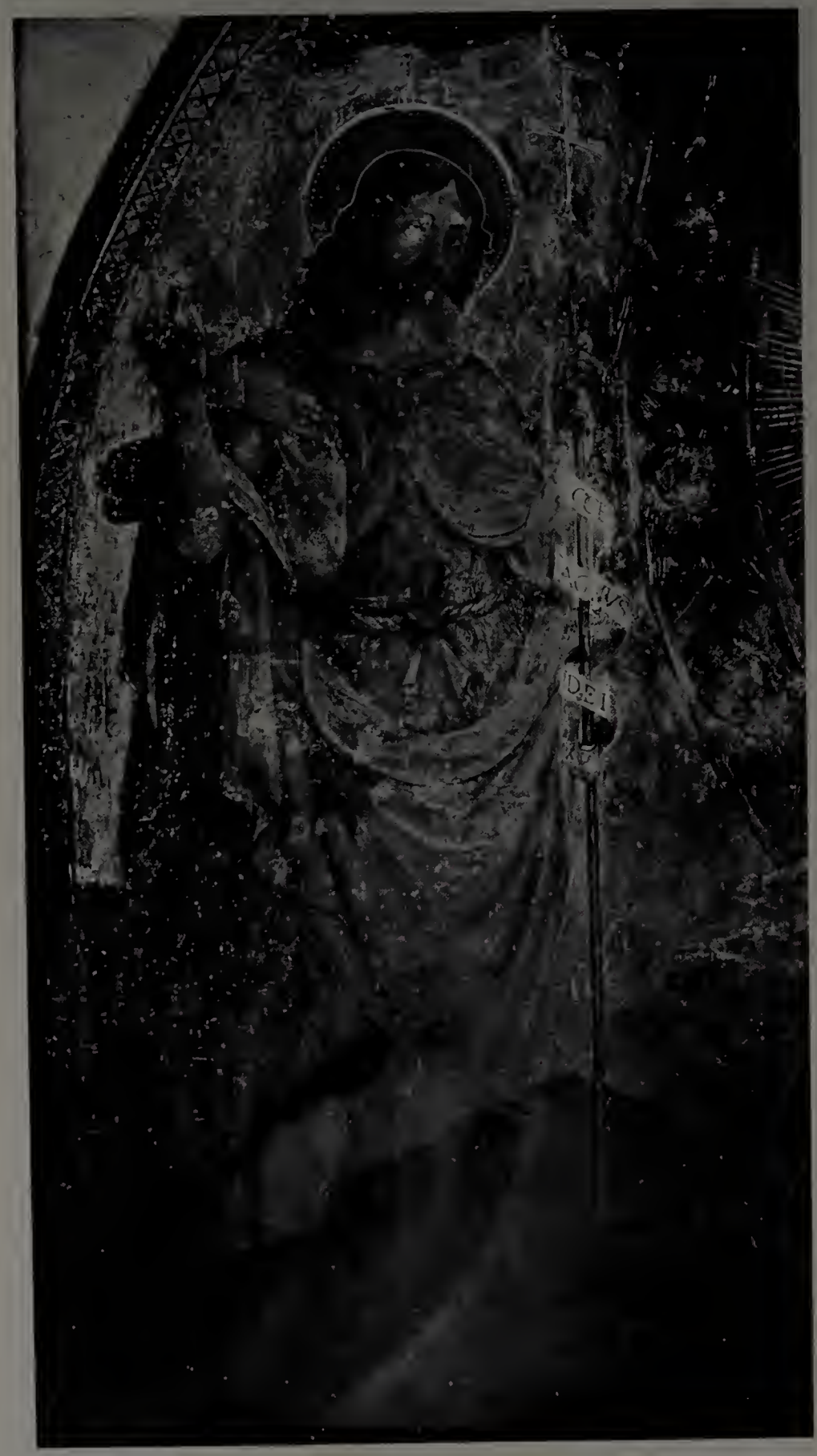


Fig. 1, Detail: *St. John the Baptist.*

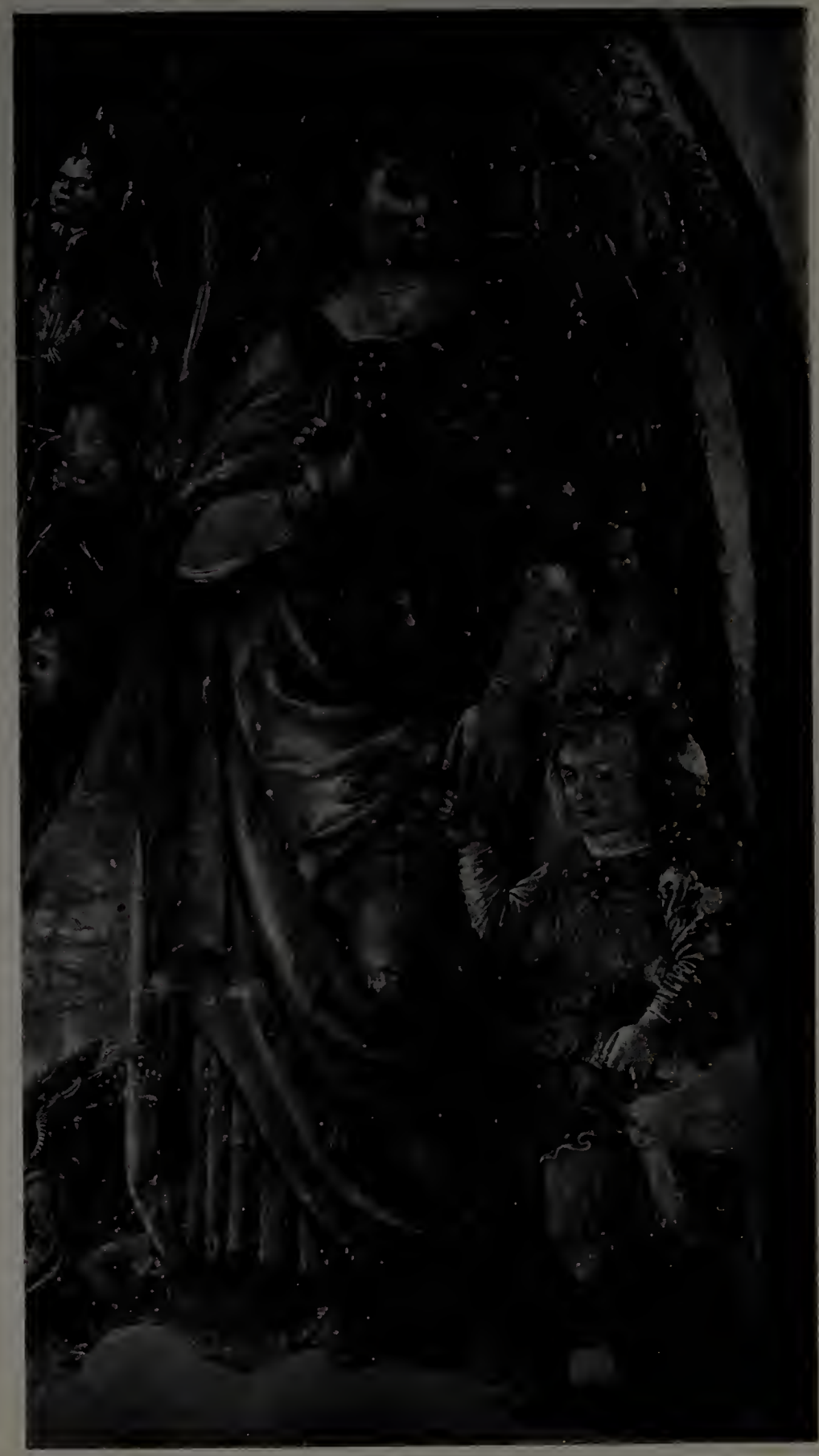


Fig. 2, Detail: *Archangel and Tobias.*

CAPORALI, Montone, (Umbertide), *Church of S. Francesco*

CAPORALI, *Madonna and Angels.* Florence, *Uffizi.*

CAPORALI, *Christ and the Virgin in Glory.* Perugia, *Pinacoteca.*

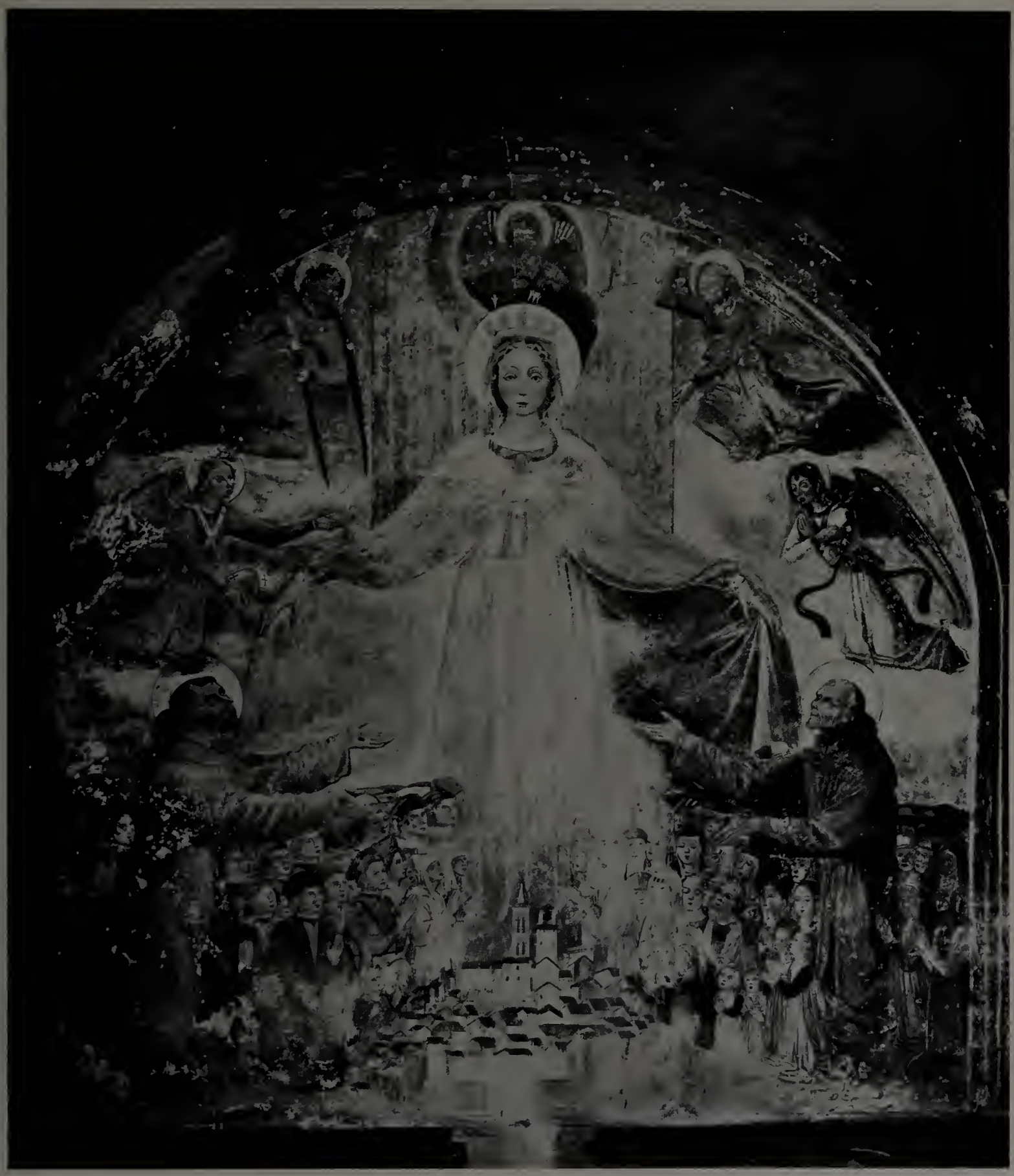
Fig. 1, *Eternal Father.*

Fig. 2, Detail : *St. Giuliana.*

Fig. 3, Detail : *Angel.*

CAPORALI, Perugia, *Pinacoteca.*

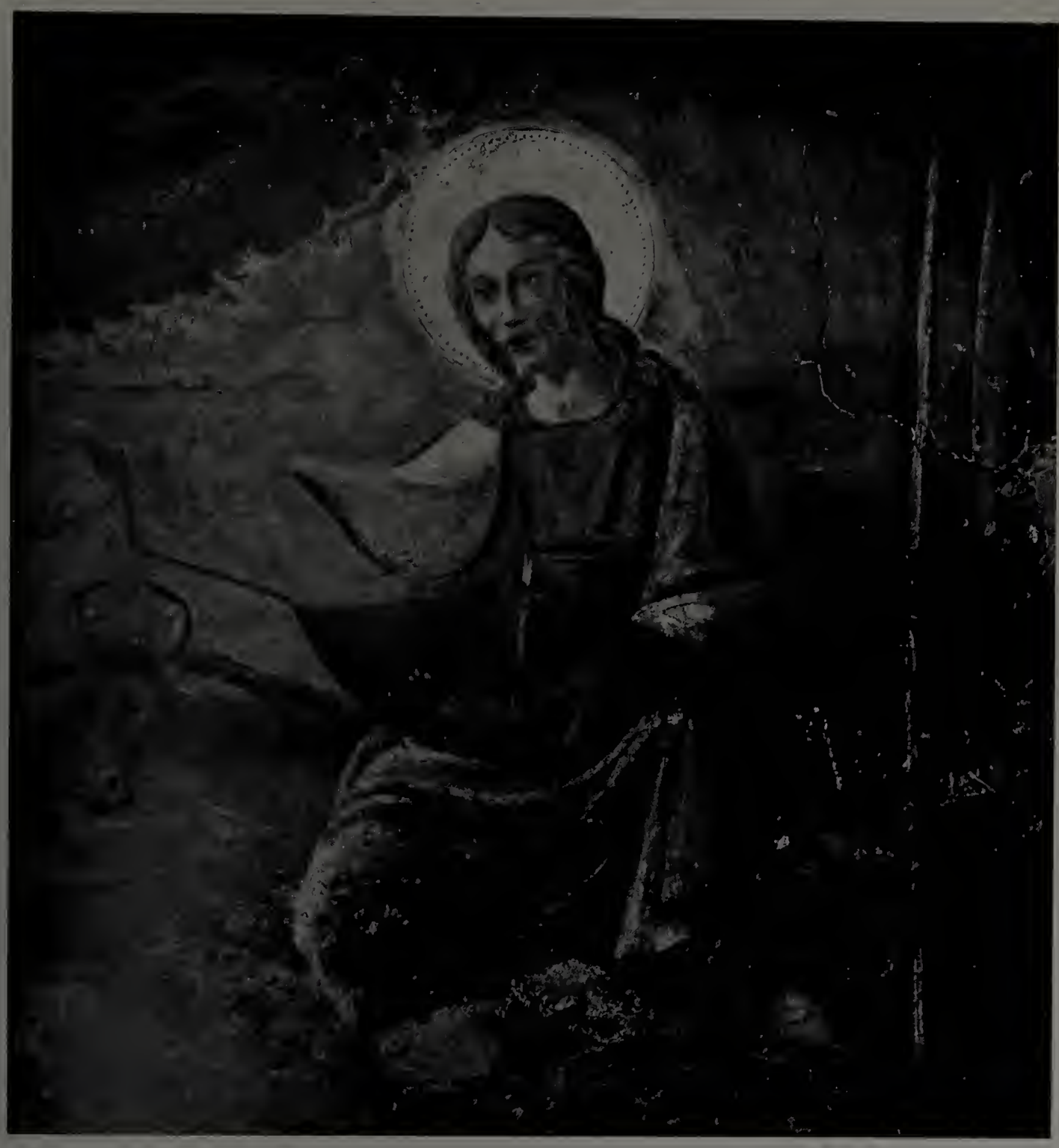
CAPORALI, *Crucifix*. Isola Maggiore (Lake Trasimene), *Parish Church*.



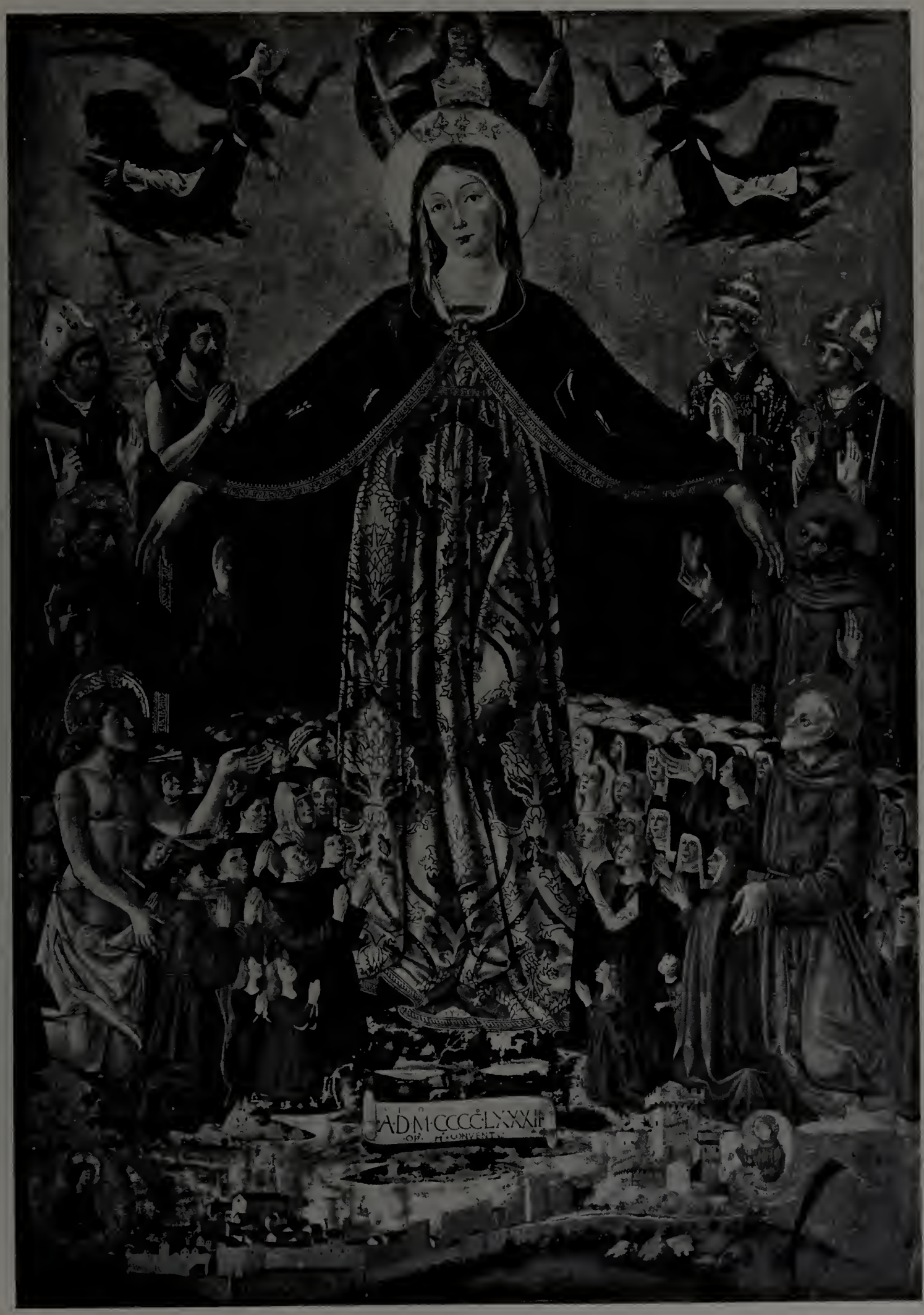
CAPORALI, *Madonna della Misericordia.* Deruta, *Church of S. Antonio.*

CAPORALI, Detail : *St. Francis.* Deruta, *Church of S. Antonio.*

CAPORALI, Detail: *St. Bernardino.* Deruta, *Church of S. Antonio.*



CAPORALI, *St. Luke*. Deruta, *Church of S. Antonio.*



CAPORALI, *Madonna della Misericordia.* Montone, *Church of S. Francesco.*

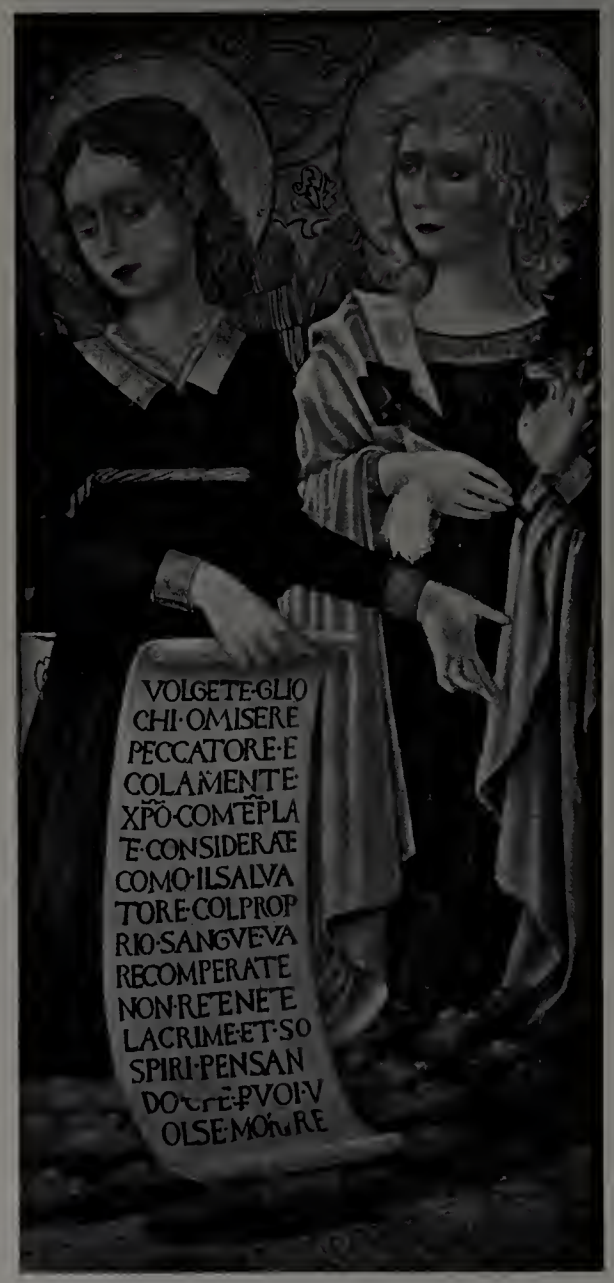
Fig. 1, Detail: *Head of the Madonna.*

Fig. 2, Detail: *St. Sebastian.*
CAPORALI, Montone (Umbertide), *Church of S. Francesco.*

Fig. 3, Detail: *Head of St. Sebastian.*

Fig. 1, PINTURICCHIO, *Madonna*. London, *National Gallery*.

Fig. 2, CAPORALI, *Madonna*. Naples, *Museo Nazionale*



CAPORALI, Figs. 1-4, *Angels with symbols of the Passion.* Perugia, *Pinacoteca.*

CAPORALI, *Pietà*. Perugia, *Cathedral*.

CAPORALI, *Pietà.* Perugia, *Pinacoteca.*

CAPORALI, *Madonna and Saints.* La Rocchicciola (Assisi), *Church of S. Francesco.*

CAPORALI, *Madonna and Saints.* Monte l'Abate (Perugia).

CAPORALI, Detail of Plate 42. Monte l'Abate (Perugia).

Fig. 1, CAPORALI, Detail of Plate 42 : *Sibyl.*
Monte l'Abate (Perugia).

Fig. 2, CAPORALI, Detail of Plate 40 : *Head of the Magdalen.*
Perugia, *Pinacoteca.*

CAPORALI, *Madonna and two Saints.* Civitella d'Arno (Perugia).

CAPORALI, Detail of Plate 45. Civitella d'Arno (Perugia).

School of CAPORALI, *Madonna and Angels.*
La Rocchicciola (Assisi), *Church of S. Francesco.*

School of CAPORALI, *Madonna and Saints.* Corciano (Perugia), *Church of S. Francesco.*

CAPITA DESECTA AND MARBLE COIFFURES.

JOHN R. CRAWFORD.

ANCIENT marble heads, sliced neatly at the crown like breakfast eggs, or in some cases at the occiput, and numerous enough in the museums to be noticeable even to the casual observer, were first commented on, so far as I know, by Heuzey[1], who concluded that, being damaged, they had been so treated by their ancient possessors, in order to render them either more presentable or more fit for repair. Some indeed bear mortised segments. S. Reinach[2], discussing the head of a youth from Cos (No. **40** in the list below), sliced at the back and with no segment attached, advanced the idea that such occipital cuts, whether executed originally by the artist or later at the whim of the owner, were designed to give the heads greater stability when shelved against a wall. Later[3], however, influenced by the case of an occipital segment actually mortised to an Aphrodite head found at Delos (No. **1**), he withdrew this hypothesis and proposed the somewhat easier explanation, apparently of coronal as well as occipital cuts, that the ancient sculptor was at times compelled to make use of more than one block of marble for a single head. At about the same time Bernoulli[4], in connection with the so-called Germanicus of the Louvre (No. **30**) and thinking of a possible identification with the youthful Julius Caesar, hinted that its neatly attached coronal segment might have been made to replace an original one with the imperial diadem. Later, again, de Villefosse[5] suggested three possible reasons to explain why the artist of the Apollo *en krobylos* of the Louvre (No. **6**) was obliged to employ a small coronal segment, first, that the marble might have given out at that point (i. e. due to bad planning), or second, that it might

[1] *Recherches sur les figures de femmes voilées dans l'art grec*, in *Monuments grecs*, 1873, pp. 9-10. See also his *Quelques observations sur la sculpture grecque en Gaule*, p. 13, and the notices by DE VILLEFOSSE, *Gaz. Arch.*, 1877, p. 101, and S. REINACH, *Bull. Corr. Hell.*, 1882, p. 467, 1883, p. 371, n. 1.

[2] *Bull. Corr. Hell.*, 1882, p. 468.

[3] *Bull. Corr. Hell.*, 1883, p. 371, n. 1.

[4] *Römische Ikonographie*, I, pp. 227, 233.

[5] *Monuments Piot*, I, 1894, p. 71 and n. 1.

have shown an unexpected defect, or third, that it might have been damaged in the making. He adds a list of six other heads similarly treated, all in the *salle grecque* of the Louvre (Nos. **4, 7, 8, 15, 35, 40**). Couve[1], in his discussion of an Apollo *diadoumenos* from Delos (No. **5**), follows de Villefosse, and adds two more examples from Delos to his list (Nos. **23, 37**).

Those who followed the fascinating reports of the lamented Paul Gauckler[2] on his Janiculan discoveries have perhaps not forgotten that he found in the Syrian sanctuary certain fresh material of similar character, namely, a statue of Dionysus (No. **17**; see Pl. 49, Fig. 1) and a head of Antoninus Pius (No. **29**), together with a curious segment of a human skull[3], this last deposited, apparently as a relic, directly under the statue of the Syrian Ba'al in the temple of basilica form. With this new material Gauckler associated[4], first, the above-mentioned heads (Nos. **1, 5, 23, 37**) from what he calls the Syrian quarter of Delos, second, similar material (Nos. **16, 39, 41**, cf. also **17**) showing traces of gilding, which on the evidence of Lucian[5] is characteristic of Syrian cult statues, third, certain segmented heads (Nos. **31, 32, 33**) of Roman emperors who may be supposed to have been interested in the Syrian cult, and fourth, a good deal of miscellaneous material, having no relation *per se* with Syria or the Syrian religion. The complete list includes 29 examples. With these segmented heads, moreover, Gauckler was led to group certain other material of a distinctly different type, namely, several heads of Roman imperial ladies of the Emesene dynasty, prepared for, and sometimes actually bearing, removable coiffures (Nos. **46, 47, 48, 49, 54**), which indeed also occur without an accompanying head (Nos. **50, 52, 53**). This grouping was evidently suggested by the coiffure (No. **53**) found in the Janiculan sanctuary and attributed by Gauckler to Julia Domna.

In explanation, at any rate, of both types of heads, that is, both those segmented and those prepared for coiffures, Gauckler proposed at some length a ritualistic hypothesis[6] which practically disregards the previously proposed explanations of Heuzey, Reinach, Bernoulli, and de Villefosse. This hypothesis is, in brief, that we are dealing with a rite of anointing in connection with cult statues of adopted Syrian divinities in

[1] *Monuments Piot*, III, 1896, pp. 138-139.

[2] *Comptes Rendus de l'Acad. d. Inscr.*, 1908, pp. 510 ff., 1909, pp. 617 ff., 1910, pp. 378 ff.

[3] GAUCKLER, *Comptes Rendus*, 1908, pp. 527-528, " boite crânienne... parfaitement intacte et coupée net, sans trace d'incinération. Elle avait donc été sectionnée intentionnellement pour être déposée dans un ossuaire "; 1910, p. 389, " calotte crânienne sectionnée, jouant le rôle de relique ". See NICOLE et DARIER, *Mélanges de l'école française de Rome*, 1909, pp. 8-9, and PASQUI, *Notizie degli scavi*, 1909, p. 409. But consult also Nicole's privately communicated statement which I quote below, p. 117, n. 1.

[4] For the details read Gauckler's own discussion, *Comptes Rendus*, 1910, pp. 389-404, to which I make constant reference.

[5] *De dea Syria*, 29, 31-33, 60.

[6] For Gauckler's precise statement of this hypothesis see *Comptes Rendus*, 1910, pp. 399, 403-404.

the syncretistic age of the Severi. If the statue was ready to hand, as in the case of the Hellenistic Dionysus (No. **17**), the head was formally cut, the oil applied, and the segment mortised on again. If it was made new for the purpose, as in the case of the Antoninus Pius (No. **29**) or the heads of imperial ladies (Nos. **46** ff.), the head and its segment (or coiffure) were prepared separately to begin with. In general the rite falls into the same category with the nimbus, the royal crown, the radiate diadem, the anointing of the kings of Judah, the tonsure of priests, and the trepanation of the Pharaohs. It is a matter of the brain as the seat of the soul, where the Divine Essence and the human creature conjoin.

The theory seems to rest, first, on the assumption that a large percentage of Gauckler's material, 20 out of 37 examples, may be associated on grounds already indicated with Syria or the Syrian cult, second, on the alleged similarity in form between the cranial segment found on the Janiculum and many of the segmented heads, and third, on the statements of three ecclesiastical writers of the end of the fourth Christian century regarding strange things found in deserted Syrian shrines at Alexandria. Sozomenes[1] mentions ὄργανά τινα εὑρέθη τῶν ἐνθάδε ποτὲ μυούντων ἢ τελουμένων; Socrates[2] is more specific with κράνια ἀνθρώπων; while Rufinus[3], with his " infantum capita desecta[4] inauratis labris ", enables Gauckler to speak confidently of " crânes d'hommes et d'enfants, parfois *sectionnés* et dorés . . . que l'on découvrit en si grand nombre dans les ἄδυτα païens d'Alexandrie ". Since this array of evidence may seem formidable, and since after a careful examination of it I have not the slightest faith in the hypothesis it is intended to support, I adduce at this point a briefly descriptive catalogue of the examples noted (but in most cases not described) by Gauckler, with the addition of twenty others, largely from my own observations in the museums of Rome. This list is by no means exhaustive[5], but it will serve, I think, to show the futility of Gauckler's hypothesis, as well as to give some idea of the great variety of material with which we are dealing.

CATALOGUE OF MATERIAL.

(Note. An asterisk is placed before the numbers not included in Gauckler's list. References to Gauckler, if not otherwise indicated, are to his article in the *Comptes*

[1] *Historia ecclesiastica*, V, 7.

[2] *Historia ecclesiastica*, III, 2-3.

[3] *Historia ecclesiastica*, II, 24; MIGNE, *Patrologia latina*, XXI, 533.

[4] My use of the convenient phrase *capita desecta* in the title of this paper is of course suggested by Gauckler's interpretation of it.

[5] My attention has been called to a badly damaged segmented head, said to have been found near the Baths of Caracalla, now in the antiquity shop of D. A. Valente, 24, Piazza Aracœli. It has a small oblique occipital cut with three small mortises containing fragments of metal tenons. A search of the dealers' shops in Rome would doubtless reveal other examples.

Rendus, 1910, pp. 389-404. Descriptions of heads in Roman museums, except when otherwise specified, rest on my own observations. Heads not in Roman museums are described from the statements of the authorities cited, which have been verified, when possible, by a careful examination of the plates and figures accompanying the various articles).

I. SEGMENTED MARBLE HEADS [1].

A. DIVINITIES.

1. Head of Aphrodite, discovered by S. Reinach at Delos near the *temenos* of the Apollo temple. Gauckler, p. 400, n. 6. Reinach, *Bull. Corr. Hell.*, 1883, p. 371, n. 1. According to Reinach the occiput is a separate segment attached to the head proper. It is in connection with this head that he withdraws the theory he had previously advanced (*Bull. Corr. Hell.*, 1882, p. 468) that heads with segmented occiput were so treated in order to be shelved against a wall for the sake of greater stability.

2. Head of Aphrodite. Noted by Gauckler (p. 401, n. 8) as Terme Museum No. 51. This number does not suit the case (cf. Paribeni, *Guida del Museo Nazionale*, p. 6, No. 31, 51). Signor Moretti, of the Museum, suggests that Gauckler may refer to head No. 547 in *sala* 11, which has a large occipital cut, nearly perpendicular, with a small rectangular mortise for the attachment of the missing segment.

3. Statue of Aphrodite (the so-called Psyche of Capua). Naples Museum. Friederichs-Wolters, *Bausteine*, No. 1472. Gauckler (p. 401, n. 8) includes it doubtfully in his list. The crown is segmented neatly from forehead to occiput, where a perpendicular cut descends at right angles. These sections were formerly thought due to repair by an ancient hand, but the Friederichs-Wolters catalogue admits the probability that the statue was originally made in more than one piece.

4. Head of Apollo from the Bibliothèque Mazarine. Louvre, *salle grecque*. *Catalogue sommaire*, 2076. Gauckler, p. 401, n. 2. De Villefosse (*Monuments Piot*, I, p. 71, n. 1, No. 5) states that the small cut is at the occiput on the left side, and that there are traces of a square mortise for the attachment of the missing segment.

5. Statue of Apollo *diadoumenos*, found in the " Syrian quarter " of Delos, 1894. Gauckler, p. 400, n. 2. Couve, *Bull. Corr. Hell.*, 1895, p. 484 and Pl. 8. *Monuments Piot*, III, pp. 138-139 and Pls. 14, 15. The small coronal segment is attached and slants somewhat from right to left. Couve thinks it due either to a defect in the block or to the carelessness of the artist in selecting too small an original block for his statue.

[1] The case of a segmented bronze head, from Pietrabbondante near Agnona and now in the Bibliothèque Nationale, Paris, is discussed in this connection by Héron de Villefosse, *Gaz. Arch.*, XIII, 1877, p. 101, with Pl. 14.

6. Head of Apollo *en krobylos*. Louvre, *salle grecque*. Gauckler, p. 401, n. 2. De Villefosse, *Monuments Piot*, I, p. 71 and Pls. 8, 9. The attached segment, even smaller than that of No. 5, is confined to the front of the crown and shows a pronounced obliquity from right to left. It is certainly by the hand of the original sculptor and de Villefosse attributes it either to a failure of the material at that point (i. e. too small a block), to a defect in the marble, or to an accident in the making which demanded repair.

7. Head of Apollo. Louvre, *salle grecque*. *Catalogue sommaire*, 2038. Gauckler, p. 401, n. 2. De Villefosse, *Monuments Piot*, I, p. 71, n. 1, No. 2. According to de Villefosse the segment includes only the crown and is of different marble from the head. Gauckler notes that it seems to be a later restoration.

*8. Head of Apollo. Louvre, *salle grecque*. *Catalogue sommaire*, 2032. De Villefosse (*Monuments Piot*, I, p. 71, n. 1, No. 3) states that the cut is at the occiput and that the plane surface of the head at that point is chiseled roughly for the application of the missing segment.

9. Head of Apollo. Louvre, inventory, No. 689. Gauckler (p. 401, n. 2) notes but does not describe it.

10. Hellenistic statue of Apollo from Magnesia ad Sipylum. Constantinople Museum. Gauckler, p. 400, n. 7. Th. Reinach, *Monuments Piot*, III, p. 155 and Pls. 16-18. The segment is not mentioned by Reinach, but plate 18 of his article shows it of moderate size and attached to the back of the head. The irregular break over the forehead has no relation to the segment.

*11. Statue of Artemis. Terme Museum, court 749, beside the path at the middle of the N.W. side. The head is segmented from above the forehead to the occiput, and there is no mortise to indicate a missing piece.

*12. Archaic or archaistic head of Athena. Barracco Museum 90. *Collection Barracco*, Pl. 24. Helbig, *Führer*^{3}, No. 1085. The head shows the qualities of Ionic work of the second half of the sixth century B. C. It is segmented cleanly from above the forehead downward to the base of the occiput, showing in front the lower rim of the helmet of which the neckpiece appears behind. The cut has a plane surface, mortised in the center for a metal tenon which still projects. The case seems analogous to that of No. 14, *q. v.*

*13. Head of Athena. Barracco Museum 93. *Collection Barracco*, Pl. 25. Helbig, *Führer*^{3}, No. 1084. This is an original work by an Attic sculptor of the beginning of the fifth century B. C. The head is segmented cleanly in the same manner as No. 12, save that more of the helmet is left over the forehead, giving the cut an obliquity of 45 degrees in profile. In the center is a rectangular mortise for the attachment of the missing piece. See No. 14.

*14. Colossal head of Athena, formerly in the Villa Carpegna. Terme Museum 55051, *sala* 9. Paribeni, *Guida del Museo Nazionale*, p. 79, No. 314. Helbig, *Führer*[3], No. 1367. Amelung, *Jahreshefte des öst. arch. Instituts*, 1908, pp. 169 ff., with accompanying illustrations. It is segmented in the manner of Nos. **12** and **13**, but with a deep cylindrical mortise set in a long rectangular groove. Amelung has treated this head fully in connection with other replicas of the same original, similarly segmented (*a*. Head in the Vatican, *Chiaramonti* 197. Helbig, *Führer*[3], No. 70. - *b*. Head in Vienna. R. von Schneider, *Album auserlesener Gegenstände der Antikensammlung des allerhöchsten Kaiserhauses, Taf.* 3. - *c*. Head in Seville. Hermann, *Jahreshefte des öst. arch. Inst.*, 1899, *Taf.* 2. - *d*. Head in the British Museum. A. H. Smith, *Catalogue of Ancient Sculpture*, III, No. 1572). He concludes that we are dealing with faithful copies of an original acrolithic or chryselephantine statue of the school of Phidias. The upper portion of the helmet was, he thinks, of marble, stucco, or wood sheathed with metal. The explanation of the cut is perhaps involved in the larger question of acrolithic or chryselephantine technique in general[1]. (See particularly Amelung, *op. cit.*, pp. 174, 182 and Helbig, *ll. cc.*). But if, as Amelung believes (*op. cit.*, p. 179), the whole helmet was given a metallic color, the reason for making part of it in a separate piece must remain uncertain.

15. Head of Demeter found at Apollonia in Epirus. Louvre, *salle grecque*. *Catalogue sommaire*, 2000. Gauckler, p. 401, n. 9. De Villefosse, *Monuments Piot*, I, p. 71, n. 1, No. 7. Heuzey et Daumet, *Mission de Macédoine*, Pl. 32. Heuzey, *Monuments grecs*, 1873, Pl. 1. There are three cuts, one oblique on the left side of the head, two others perpendicular on the veil. Gauckler thinks the head perhaps simply damaged by accident.

16. Colossal statue of Demeter with a portrait head of the end of the second century A. D., discovered by Gauckler at Carthage, 1900. Alaoui Museum. Gauckler, p. 397, n. 1, and *Revue Archéologique*, 1902, II, p. 395 f. Pls. XVI, 3; XVII, 7. The cut includes the upper part of the coiffure, which is in the style of the younger Faustina. There are traces of gilding. See No. **38**.

17. Hellenistic statue of Dionysus from the Janiculan sanctuary. Terme Museum 60920, *casetta* A, off court. Gauckler, p. 394-396 and Pl. 6. There are traces of gilding on face and hands. The large attached segment is horizontal from forehead to occiput, but has a noticeable obliquity from right to left. It was clearly made by the same

[1] In this connection may be noted Sieveking's theory (Brunn-Bruckmann, *Denkmäler*, text to No. 605, p. 4) of an original chryselephantine technique in explanation of the peculiar series of marble masks represented by the Zeus of Otricoli. Amelung (*Ausonia*, 1908, p. 116, and Helbig, *Führer*[3], I, p. 191) reject this explanation, but admit that the phenomenon, which seems to be Alexandrian in origin, has not yet been satisfactorily interpreted.

hand that chiseled the statue and according to Gauckler originally formed a part of the same block, to be removed and replaced in accordance with the mysterious Syrian rite of a much later epoch. As proof of this he states that the same strokes of the chisel can be followed from the one piece to the other. Moreover, in his opinion, the talent shown by the artist excludes the suspicion that he failed to calculate beforehand the dimensions of his statue and was compelled at the last moment to add a piece to his block. Gauckler does not, however, consider the possibility of a defect in the marble. It may be indeed that the very talent of the maker of the Dionysus enabled him to produce a cleverly concealed joint. May not the chisel have been used cunningly even when the segment was in place on the head? Here published, Pl. 49, Fig. 1.

*18. Statue of Dionysus. Lateran, Museum room 8. The head is segmented from above the forehead to the occiput, but there is no mortise for the application of the missing piece.

19. Group of the Dioscuri. Louvre, inventory, No. 300. Gauckler (p. 401, n. 7) lists but does not describe it.

20. Head of Helios. Louvre, inventory, No. 418. Noted but not described by Gauckler (p. 401, n. 3).

21. Statue of Hermes (the so-called *discobolos*). Louvre. Gauckler, p. 401, n. 6. Reinach, *Répertoire de la statuaire*, I, p. 144, Pl. 286.

22. Statue of Hermes fastening his sandal (the so-called Jason or Cincinnatus). Louvre. *Catalogue sommaire*, 83. Gauckler, p. 401, n. 6. Reinach, *Répertoire de la statuaire*, I, p. 157, Pl. 309.

23. Colossal statue of Hermes (?) with a portrait head, discovered in the " Syrian quarter " of Delos, 1894. Gauckler, p. 400, n. 3. Couve, *Bull. Corr. Hell.*, 1895, p. 481 and Fig. 12. *Monuments Piot*, III, pp. 138-139. The attached segment is small and includes the crown only. Gauckler calls it a Hermes or a beardless Hercules. Couve is probably nearer the truth in identifying it as a victorious athlete.

*24. Statue of Nike from the monument of Eubulides, Athens. Friederichs-Wolters, *Bausteine*, No. 1432. The head is segmented cleanly from above the forehead to the base of the occiput. It was formerly identified with Athena and a metal helmet posited, but the weakness of this view has been clearly shown.

25. Statue of Pan (replica of the British Museum Pan of Kerdon). Terme Museum 52399, *sala* 10. Gauckler, p. 401, n. 5. Paribeni, *Guida del Museo Nazionale*, p. 82, No. 329. *Bull. Com.*, 1906, p. 5, *tav.* I and Fig. 1. Helbig, *Führer*[3], No. 1376. The head is segmented from above the forehead to the base of the occiput, with a bronze tenon projecting from the surface of the cut. The segment is missing.

26. Colossal head of Serapis. Vatican, *rotonda*, 549. Gauckler, p. 402, n. 1.

Helbig, *Führer*[3], No. 298. Brunn-Bruckmann, *Denkmäler*, 163. The large segment is at the occiput, and is restored.

27. Head of Serapis in black basalt. Vatican, *sala dei busti*, 298. Gauckler, p. 402, n. 1. Helbig, *Führer*[3], No. 237. Amelung, *Sculpturen des vaticanischen Museums*, II, p. 495 and *Taf.* 68. Gauckler includes it doubtfully in his list. According to Amelung and Helbig, the back of the crown and the occiput are restored.

B. ROMAN IMPERIAL PERSONAGES.

28. Bas-relief of Antinous found at Lanuvium. Gauckler, p. 401, n. 1, and *Comptes Rendus*, 1908, p. 347, with plate in text. G. E. Rizzo, *Ausonia*, 1908, p. 5 and *tav.* 1. R. Delbrück, *Antike Porträts*, pp. LI-LII and *Taf.* 44. Brunn-Bruckmann, *Denkmäler*, 635. The small coronal segment is missing. Gauckler sees evidence of oriental influence in the signature of Antonianus of Aphrodisias. But Rizzo rightly observes that the segment (so far from being due to the influence of an oriental cult) was made necessary by a break in the marble which extends across the entire relief. " La linea della sutura va dall'altezza del grappolo d'uva, che si vede a sinistra, fino alla testa della figura e fino al peduncolo dell'altro grappolo e alla cornice . . . Convenne allo scultore per il disgraziato incidente occorsogli nell'opera, scolpire la parte superiore della testa in un tassello da ricongiungere, il quale è andato perduto ". The break may be seen satisfactorily in Rizzo's plate. The case is of course of the greatest possible importance as affording positive evidence for de Villefosse's theory, stated in the opening paragraph of this discussion.

29. Head of Antoninus Pius from the Janiculan sanctuary. Terme Museum, *magazzino*. Gauckler, p. 394 and Pls. 4, 5. The missing segment was large, the cut extending horizontally from just above the forehead to about the middle of the occiput. There is a large rectangular mortise in the center. A curious feature, not noted by Gauckler, is that the cut is noticeably concave, probably the better to hold the segment. It is interesting, and perhaps suggestive, to observe that the cut follows approximately the line of a crown or wreath, as in the case of No. **30**, *q. v.*

30. Statue by Cleomenes (the so-called Germanicus or Roman orator). Louvre. Gauckler, p. 401, n. 6. Bernoulli, *Römische Ikonographie*, I, pp. 227, 233, with Fig. 33 and *Taf.* 21. Friederichs-Wolters, *Bausteine*, No. 1630. Kekulé von Stradonitz, *Die griechische Skulptur*[2], pp. 347-350, with accompanying illustrations. The segment, which is attached, is large, from above the forehead to the base of the occiput. Bernoulli, thinking of a possible identification with the youthful Julius Caesar, suggests that it may be an ancient restoration replacing an original piece with a diadem, which would have encircled the head just above the line of the cut.

31. Head of Lucius Verus. Louvre, Borghese bust, 1091. Gauckler, p. 402, n. 2. Bernoulli, *Römische Ikonographie*, II, 2, p. 209, No. 36.

32. Head of Lucius Verus, discovered by Gauckler at Gouraya, 1891. Algiers Museum. Gauckler, p. 402, n. 2. Wierzejski, *Catalogue illustré du musée national des antiquités Algériennes*, p. 5, No. 31.

33. Head of Septimius Severus. Terme Museum 193, *sala* 13. Gauckler, p. 402 and Pl. 8. Paribeni, *Guida del Museo Nazionale*, p. 95, No. 407. The large segment extending horizontally from the top of the forehead to the middle of the occiput, is removable, and Gauckler's plate shows it both on and off. A noteworthy peculiarity is that the large cylindrical tenon is of the same piece with the head, fitting neatly into the mortise prepared for it in the segment. Gauckler rightly concludes that the head was originally made in two pieces. May there not have been an alternative segment provided with a wreath or diadem? See No. **30**.

C. MISCELLANEOUS.

***34.** Idealized head of Alexander. Barracco Museum 157. *Collection Barracco*, Pl. 57. Helbig, *Führer*[3], No. 1110. It is segmented from high above the forehead to the base of the occiput. The cut is concave, save for a narrow flat rim, and in the center is a small rectangular mortise.

***35.** Head of Alexander from Delos (the so-called Inopos). Louvre, *salle grecque. Catalogue sommaire*, 2035. De Villefosse (*Monuments Piot*, I, p. 71, n. 1, No. 4) states that the cut shows three different surfaces, with traces of tenons.

***36.** Fifth century female figure. Barracco Museum 77. *Collection Barracco*, Pl. 28. Helbig, *Führer*[3], No. 1121. The top of the head, from forehead to occiput, is a separate piece, now attached with plaster. The irregular line of jointure, however, shows that it is a case of breakage. But if the upper part had been more seriously damaged by the supposed accident, might not the break have been chiseled plane, and a new upper piece of the " segment " type have been mortised on? Gauckler would then have had another example for his list.

37. Hellenistic female figure found in the " Syrian quarter " of Delos, 1894. Gauckler, p. 400, n. 4. Couve, *Bull. Corr. Hell.*, 1895, p. 482 and Pl. 7. *Rev. Arch.*, 1897, II, p. 25 and Pl. 13. *Monuments Piot*, III, p. 139. Gauckler calls the figure a priestess. The cut is peculiar in that it runs from above the forehead nearly to the occiput, then proceeds downward at an obtuse angle (see plate in *Rev. Arch.*).

***38.** Female head of the Antonine period. Vatican, *Chiaramonti* 138. Amelung, *Sculpturen des vaticanischen Museums*, I, p. 398, with *Taf.* 42 (the head at the extreme

left on the shelf). The upper part of the coiffure, a cylindrical coil of braids resting on the top of the head like an artificial headdress, is in a separate piece, attached to the head with plaster. Amelung pronounces it a restoration. Even so, the need for restoration must be explained, and I include the head here in view of the intimate relation which Gauckler seeks to establish between marble coiffures and segmented heads with his ritualistic theory. Moreover, the cut resembles that of No. **16** above, *q. v.*

39. Head of an old man, from the Esquiline. Rome, Antiquarium Comunale, next to the last room. Gauckler, p. 397 and Pl. 7. In view of Gauckler's insistence on the exclusion of all cases of breakage (see p. 399 of his article), it is surprising that he considers this head in connection with his cult theory. The upper portion of the conical cap, now attached with plaster, shows an irregular line of jointure which indicates anything but an intentional cut. It is a matter of repair, as in the case of No. **36** above. There are traces of gilding.

***40**. Head of a youth, from Cos. Louvre, *salle grecque*. *Catalogue sommaire*, 2112. De Villefosse (*Monuments Piot*, I, p. 71, n. 1, No. 6) states that the missing segment is occipital.

41. Head of a youth, from the Esquiline. Rome, Antiquarium Comunale, near No. **39**. Gauckler, p. 397 and Pl. 7. The attached segment is coronal, from the forehead to the middle of the occiput. There are traces of gilding.

***42**. Head of a youth. Rome, Antiquarium Comunale, near No. **41**. The coronal cut, which contains a metal tenon, extends from forehead to occiput. A perpendicular cut at the back of the head also contains a metal tenon.

***43**. Head of a youth, of the fourth century B. C. Barracco Museum 146. Not published in *Collection Barracco*. In the middle of the cut, which extends from above the forehead to the occiput, is a large rectangular mortise, of one piece with the head, intended for the adjustment of the missing piece.

***44**. Statue of a youth (Eros?), from the Quirinal. Palazzo dei Conservatori, corridor. Helbig, *Führer*[3], No. 921. *Bull. Com.*, 1886, Pls. 1, 2. The head is segmented from the forehead to the occiput and the piece is missing. It is important to note that the shoulders as well show a plane cut, probably for the adjustment of a separate piece with wings.

***45**. Sepulchral statue of a reclining youth, from Tre Fontane. Terme Museum, court. Ghislanzoni, *N. S.*, 1912, pp. 38-42, Figs. 5, 6. E. Gatti, *Studi Romani*, 1913, pp. 348-349 and Fig. 6. R. Delbrück, *Arch. Anz.*, 1913, p. 145, Figs. 6, 7. The segment is small and oblique, to the right of the occiput. The youth offers an egg to an approaching serpent, and the discoveries on the Janiculum at first suggested a connection with the Syrian cult. The segment was accordingly removed in the hope of finding a

cavity within, but the cut proved to be of the ordinary type. Ghislanzoni has since pointed out that the egg and serpent are often associated with death in ancient art not under oriental influence, and that the figure, on grounds of style, dates from the Julio-Claudian period. Mrs. Arthur Strong, in a lecture on " *The symbolism of the after life on Roman funerary monuments* ", delivered at the British School of Rome, March 11, 1914, has assigned the figure to the same period. Here published, Pl. 49, Fig. 2.

II. MARBLE COIFFURES[1] (AND HEADS PREPARED FOR THEM).

46. Head of Julia Domna, with coiffure. Terme Museum 564. Gauckler, p. 403, n. 1. It is of the Gabii type (cf. Bernoulli, *Römische Ikonographie*, II, 3, *Taf.* 16), showing ten heavy waves falling over the ears on each side, and a large flat " *tourteau* " (cake) behind, the plaits of which present fourteen surfaces. Precisely the same type of coiffure is shown by two other portrait heads of this empress in the Terme Museum 96 and 4298. The coiffure is in this case attached to the head with plaster, but though it fits perfectly, the failure of the short hair on the forehead to correspond with that of the coiffure proper makes it probable that the latter was not made originally for the head but replaces an original.

47. Colossal head of Julia Domna (?). Vatican, *rotonda*, 554. Gauckler, p. 403, n. 1. Helbig, *Führer*[3], No. 303. Bernoulli, *Römische Ikonographie*, II, 3, pp. 38-39, Fig. 3. The coiffure is attached with plaster. Helbig pronounces it a modern restoration, since it differs markedly from the Domna type on the coins, but is of the opinion that it replaces a removable original. Bernoulli is doubtful of the identification of the head.

48. Head of Julia Domna, with coiffure. Louvre, collection Campana, 1085. *Catalogue sommaire*, 2284. Gauckler, p. 403, n. 1. Bernoulli, *Römische Ikonographie*, II, 3, p. 46. Phot. Giraudon 1304.

49. Head of Julia Domna (?). Capitoline Museum, *stanza degli imperatori*, 52. Gauckler, p. 403, n. 1. Helbig, *Führer*[3], I, p. 454. British School *Catalogue of the Museo Capitolino*, p. 203, Pl. 47. The coiffure is an inaccurate modern restoration in plaster. It replaces, however, a removable original, as can be seen by removing the restoration itself, which is attached merely by a metal pin. Helbig thinks it a youthful portrait of the empress, while the writer in the British School catalogue, though admitting a resemblance to the Gabii type, holds the identification uncertain. The head is especially useful

[1] There has been brought to my attention the case of a coiffure in bronze, found in the vigna di Giovancorso at Chiusi. See FIORELLI in *N. S.*, 1876, p. 214 : " Vi fu inoltre scoperto un caliedro o parrucca di bronzo eseguita colla massima precisione, del diametro di met. 0.09, con un buco nella parte superiore per esser fermata sulla testa della statua a cui era destinata ".

in showing the unfinished back as prepared for a removable coiffure, and I have published a profile of it for this reason Pl. 50, Fig. 1.

50. Coiffure of Julia Domna. Terme Museum, *magazzino*, 56336. Gauckler, p. 403, n. 3 (?). The interior is roughly chiseled and is provided with a rectangular mortise. It is of precisely the same type as No. **46** above, and must therefore have belonged to a head of Julia Domna. Gauckler is surely in error, if, as seems certain, this is one of the two coiffures which he assigns to Julia Mammaea and Julia Maesa respectively, but without citing the inventory numbers.

***51.** Coiffure of Julia Domna. Terme Museum, *magazzino*, 51309. The interior is roughly cut and lacks a mortise. The hair falls in ten heavy waves to each side, and is gathered behind into a large flat " *tourteau* " which seems to be a rough imitation of No. **46** of this list.

52. Coiffure of Julia Domna. Terme Museum, *magazzino*, 56337. Gauckler, p. 403, n. 4 (?). The interior is made to fit a long rectangular projection at the back of the head. The hair parts on either side in the heavy artificial waves of Julia Domna, but is permitted to fall lower than in the type represented by No. **46**, and is gathered at the back into a flat narrow mat just above the neck. I find it precisely of the type which appears on a coin of Julia Domna, in which, to quote Lady Evans[1], " the whole of the art of her coiffeur is directed to securing a curtain-like effect of deep-hanging waved braids, falling on the neck and terminating in a small knot ". Gauckler identifies it wrongly with either Julia Mammaea or Julia Maesa (see No. **50** above). Here published, Pl. 50, Fig. 2.

53. Coiffure of Julia Domna (?). Terme Museum, *magazzino*, 60949. Gauckler, p. 393 and Pl. 5. This is the coiffure found by Gauckler on the Janiculum in 1909 and identified by him as belonging to a head of Julia Domna. The interior is roughly chiseled and contains a large rectangular mortise. The coiffure resembles somewhat the type of No. **46** but differs from it in two important particulars, — first, the hair is not artificially waved, secondly, the " *tourteau* " is pronouncedly convex. The coiffure certainly suggests the coin-portraits of Crispina or Manlia Scantilla.

54. Statue of Julia Soaemias (?) as Aphrodite, with coiffure. Vatican, *Chiaramonti* 649. Gauckler, p. 403, n. 2 (assigning it incorrectly to the Capitoline Museum). Bernoulli, *Römische Ikonographie*, II, 3, pp. 93-94 and *Taf.* 27. Amelung, *Die Sculpturen des vaticanischen Museums*, I, p. 743 and *Taf.* 80. The identification is Visconti's, and is accepted by Amelung and, with some reserve, by Bernoulli. Certainly it belongs to the Severi period. As in the case of No. **46**, the coiffure corresponds badly with the

[1] *Numismatic Chronicle*, 1906, p. 55 with Pl. 5, No. 51.

traces of hair on the head itself, suggesting that another may have preceded it. It is not attached with plaster but an examination of the interior is impracticable.

*55. Head of Julia Soaemias (?). Capitoline Museum, *stanza degli imperatori*, 42, labeled " Lucilla ". Gauckler, p. 403. British School *Catalogue of the Museo Capitolino*, p. 199 and Pl. 52 (third from the right above). The head bears a separate coiffure of *nero antico*, apparently attached with plaster. Gauckler regards it as a technical *tour de force* in polychrome and rejects it from his list. The writer in the British School catalogue, however, pronounces the hair a modern restoration, and sees in the face a resemblance to the Chiaramonti Soaemias (?), just discussed. In this case, there is no reason for not including it among the heads prepared for removable coiffures.

*56. Head of the Severi period, with coiffure. Capitoline Museum, *stanza degli imperatori*, 77, labeled " Salonina ". British School *Catalogue of the Museo Capitolino*, p. 212, with Pl. 52 (second from the left below). The coiffure is attached with plaster. The hair is thin and straight and falls in small lobes behind the ears, to be gathered into a flat braided coil above the neck, resembling in this respect No. **54** above. The profile shows the head startlingly thin, suggesting the possibility of an original coiffure much more considerable in thickness.

*57. Head of the Severi period, with coiffure. Vatican, *sala dei busti*, 335. Amelung, *Sculpturen des vaticanischen Museums*, II, p. 527 (No. 336) and *Taf.* 72 (third from the right in the lowest row). Amelung, who fails to note that the coiffure is separate and attached with plaster, describes the head as " a poor portrait of a young girl with the coiffure of Julia Domna ". The hair differs from that of Julia Domna in not being artificially waved, but the " *tourteau* " is large and flat, showing a rough resemblance to the type of No. **46** above.

Having the material now at hand for convenient reference, I propose to show briefly the weakness of Gauckler's hypothesis, first, as touching the marble coiffures with the heads prepared for them, second, as applied to the segmented heads.

There has been a general impression, shared by such authorities as Helbig[1] and Amelung[2], that the marble coiffures of imperial ladies, which clearly constitute a type

[1] *Führer durch die öffentlichen Sammlungen in Rom*[3], I, p. 201, in connection with the colossal head of Julia Domna in the Vatican, " die (Haarmasse) war offenbar aus einem besonderen Stücke gearbeitet und abnehmbar, um sie bei einem Wechsel der Mode durch eine andere Haartour ersetzen zu können ".

[2] *Sculpturen des vaticanischen Museums*, I, p. 744, in connection with the Chiaramonti statue of Julia Soaemias (?), " Die Haartour (ohne die Schulterlocken) ist aus einem besonderen Stück gearbeitet und abnehmbar, damit die Statue alle Moden mitmachen könne ".

apart, were made removable for no more mysterious reason than that the portrait heads might be kept current with the hairdresser's newest mode. The inherent reasonableness of this view may be seen at a glance in the plates accompanying Lady Evans' interesting article[1] on the " *Hairdressing of Roman ladies illustrated on coins* ", where Julia Domna, for example, is shown, now with the flat " *tourteau* " or cake[2] (Pl. 5, No. 50), now with the " curtain-like effect of deep-hanging waved braids " (Pl. 5, No. 51), or Plautilla, now with the little sacks under the ears (Pl. 5, No. 54), again with the " American bang " and the close plait at the back (Pl. 5, No. 56). And in the case of Julia Domna we have, I think, precisely these two fashions represented in existing marble coiffures (Nos. **46** etc. and **52**). Moreover, in contrast to the female segmented heads, the marble coiffures include in all cases the entire, or nearly the entire, head of hair, as though the aesthetic effect to be produced by them were a matter of consideration. In fact, it is difficult to see why Gauckler has insisted on including them with the category of segmented heads, which is typically distinct. The curved inner surface of the coiffure, mortised to fit a corresponding curve of the marble head, presents a sharp contrast to the plane surfaces of the segmented heads, and can with difficulty be shown to bear any relation either to the Janiculan skull or to the phrase of Rufinus which appears in the title of this paper. Practically the sole argument, therefore, is that the coiffures, not always of certain attribution, probably, but not in all cases provably, belong to imperial ladies of Syrian origin. But this is no ground for a cult hypothesis, and Amelung[3] justly expresses his doubt in connection with the head of Julia Domna (No. **49**, see Pl. 50, Fig. 1) in the Capitoline Museum. In matters of cult, type is practically invariable, and it is not reasonable to suppose that for the same sacred rite of the unction of images, which is by the way nowhere attested in the authors, the treatment of the imperial goddesses should differ so markedly from that of the adopted female divinities of Mount Olympus. I therefore find Gauckler's hypothesis not applicable to the group of marble coiffures with the heads prepared for them[4].

Turning now to the extensive group of segmented heads, or " *capita desecta* ", I find myself considerably embarrassed at the outset by the fact that the Janiculan skull,

[1] *Numismatic Chronicle*, 1906, pp. 37-65, with plates 3-6.

[2] See Lady Evans, *op. cit.*, pp. 54-55.

[3] In Helbig, *Führer*[3], I, p. 454. He adds, " Die ganze Frage verlangt eine erneute Prüfung mit weitgreifendster Ausnutzung alles vorhandenen Materiales ". It is to this hint that the present article is due.

[4] In connection with these coiffures of Roman ladies should be noticed the famous head of Attalus I(?) from Pergamon, which bears a separate marble coiffure, for the attachment of which the original has been in part cut away. The new coiffure is of heroic type and was perhaps added at the death of the ruler. R. Delbrück (*Antike Porträts*, pp. XXXVIII-XLI, *Abb.* 14a, b and *Taf.* 27), who identifies the head with Seleucus Nicator, and suggests that it was intended to cover traces of the oxhorns worn by that ruler in his divine capacity of *νέος Διόνυσος*. In any case it does not seem due to a mere change of fashion (A. Hekler, *Die Bildniskunst der Griechen und Römer*, pp. XX-XXI and *Taf.* 75).

which is a fundamental factor in support of Gauckler's hypothesis, has mysteriously disappeared [1]. Unfortunately, moreover, no photograph was made of it at the time of discovery. One's faith in its value as evidence, however, would be stronger, if one were to find in the authors any exact description of precisely similar relics found in Syrian shrines, or if a convincing number of such relics had actually been found in modern excavations. Here again, however, the evidence is unsatisfactory. Only one segmented skull has, so far as I am aware, been found elsewhere on a Syrian site [2], and the phrase " *capita desecta* ", which I have borrowed, perhaps too readily, from Gauckler, who in turn borrowed it from Rufinus, as a convenient equivalent to " *crânes sectionnés* ", may not, it must be admitted, mean anything more than *capita detruncata*, or heads cut from their bodies. In which case, we are forced to fall back on the final argument, namely, that a large percentage of the segmented marble heads have been found on Syrian sites, show Syrian origin in their traces of gilding, or belong to imperial personages who may be supposed to have been interested in Syria or the Syrian cult. And we must remember that this percentage has been considerably decreased by the subtraction of the coiffure group, which leaves us only 12 out of the 29 of Gauckler's list, or out of the 45 of my own more extended one.

Let us look for a moment at these twelve examples on which the cult hypothesis seems chiefly to rest. In the first place we have the six heads discovered on Syrian sites. Two of these were found, to be sure, in a Syrian sanctuary, the Dionysus (No. **17**, Pl. 49, Fig. 1) and the Antoninus Pius (No. **29**). The others, however, the Apollo *diadoumenos* (No. **5**), the Hermes–athlete (No. **23**), the Hellenistic female figure (No. **37**), and the Aphrodite (N. **1**), are only from the " Syrian quarter " of Delos, which

[1] This is the more deplorable for the reason that Gauckler alone seems to have seen the skull as " segmented ". I am deeply indebted to M. Georges Nicole, who examined the relic in company with Darier and Gauckler, for the following surprising communication, which would seem to leave but little ground for the cult theory : " Les termes de Gauckler, *C. R.*, 1910, p. 389, sont propres à donner une pauvre idée du crâne en question. C'était une boîte crânienne régulière, brachycéphale, sans rien qui marquât une trépanation ou section d'une portion supérieure de la boîte. Il manquait la mâchoire inférieure qui a pu être simplement désarticulée fortement. Le terme de *section si tranchée* que j'ai employé dans mon rapport, *Mélanges*, 1909, p. 9, n'est pas très justement choisi . . . Il est tout à fait abusif de vouloir se fonder sur ce document pour étayer les théories que vous connaissez sur les marbres antiques ". It seems, however, in the present case fairer to discuss Gauckler's argument on its own premises. For his definite statements on the skull see the references given above, p. 104, n. 3.

[2] See MACALISTER, *Quarterly Statement Palestine Exploration Fund*, 1905, p. 32, Fig. 3 and H. VINCENT, *Canaan d'après l'exploration récente*, p. 273 and Fig. 178. This cranial segment, found at Gezer in a tomb of about 1200 B. C., is carefully fitted into a bowl and seems to require a special explanation. The fragment of a skull from Ligné, France, which Vincent (*op. cit.*, p. 273, n. 2) seeks to associate with the cranial segment from Gezer, belongs to the neolithic or bronze age, and cannot, I think, have the slightest bearing on the question we are discussing. See CHAUVET, *Bull. Arch.*, 1899, pp. 529, 540 and Pl. XXVII, Fig. 3. The other relics referred to by GAUCKLER, *Comptes Rendus*, 1908, p. 527, n. 4, and by his authorities there cited, are complete, or at least unsegmented, skulls, peculiar only in being buried apart from the rest of the body. May not these be the *capita desecta* of Rufinus? See especially H. VINCENT, *op. cit.*, p. 273, n. 1.

proves to be Gauckler's interpretation of the fact that they were found in the neighborhood of the oriental sanctuaries of the Poseidoniasts, the Hermaists, the Apolloniasts, and the Tyrian Heracleists[1]. This is interesting, but not convincing as primary evidence. Again, of the three heads (Nos. **16, 39, 41**) which, aside from that of the Janiculan Dionysus (No. **17**), show traces of gilding, I have shown that one (No. **39**) is merely a case of breakage. Moreover the gilding of bronze statues was so common in antiquity that one hesitates to make the occasional appearance of this fashion in connection with statues of marble a certain indication of cult influence. Finally, there are the two heads of Lucius Verus (Nos. **31, 32**) and that of Septimius Severus (No. **33**). Now there is no doubt that Severus was eligible to honors at the hands of Syrian priests, though we are not actually informed that his portrait was included in their syncretistic pantheon of icons. And Lucius Verus, as Gauckler points out, spent four years in Syria. But there is again nothing to confirm Gauckler's conclusion about the heads. In short, the evidence sifts unsatisfactorily, and we look in vain for a single segmented marble head of a *bona fide* Syrian Adadus or Atargatis, or for the statement of an ancient author that the unction of divine images was a practice of the Syrian, or any other cult.

Any lingering faith in the plausibility of Gauckler's explanation is, I believe, dispelled by a glance at the varying types of segment included in his list, to say nothing of the examples I have added. He is, to be sure, theoretically insistent[2] on excluding, first, damaged heads, recognized by their irregular break (but see No. **39**), second, repaired heads, recognized by the variable orientation of the cut, and third, heads cut for architectural purposes (e. g. to serve as consoles), recognized by their vertical as well as horizontal sections. But his list, on the contrary, shows the greatest variety of cuts, some small (e. g. Nos. **4, 5, 6**), some large (Nos. **17, 30**), some coronal (Nos. **5, 6, 7**), some occipital (Nos. **1, 4, 10**), some horizontal (Nos. **29, 33** etc.), some perpendicular (Nos. **1, 15**), some showing various degrees of obliquity (Nos. **4, 5, 6**), and some in more than one plane (Nos. **3, 15, 37**). The most sympathetic critic can hardly admit that this heterogeneous mass of material is to be accounted for by a cult act, which would involve above all else a more or less definite uniformity of type. Incidentally, no case has been adduced of a cavity in the head, unless the mortise be so regarded, into which the oil might have been poured (see No. **45**, Pl. 49, Fig. 2).

As a matter of fact, the phenomenon of the marble segment may continue to be explained on technical grounds. Heuzey, Reinach, de Villefosse, Couve, and Bernoulli offered solutions which served to explain satisfactorily the individual cases in which they were chiefly interested. And indeed each case must be considered individually. When

[1] *Comptes Rendus*, 1910, p. 400.

[2] *Comptes Rendus*, 1910, p. 399.

the segment is present, its material and stylistic qualities, position, size, and obliquity, the niceness of the joint, the evidence of damage — all these are considerations in determining the really important question of whether it was added of necessity by the original sculptor, or whether it was a later restoration in repair of damage done the head after it left the workshop. When there is no segment present, nor any mortise, tenon or rough chiseling to indicate that one was ever attached, the case may perhaps be explained either by Heuzey's theory that the head, being damaged, was so trimmed to better its appearance, or by the hypothesis that it was cut to fit an architectural setting. I find little in support of Reinach's first theory (see No. **1**) that heads were sometimes segmented perpendicularly at the occiput for shelving. Bernoulli's hint, however, in connection with the Louvre " Germanicus " (No. **30**), that the existing segment may replace a former one with a diadem, is suggestive in the extreme, and I see no reason why the head of Septimius Severus in the Terme Museum, (No. **33**) and that of Antoninus Pius from the Janiculum (No. **29**) may not be explained in this way[1]. If portraits of empresses were made with removable coiffures, why not portraits of emperors with removable diadems? I have already called attention to the question of the helmeted Athena heads (Nos. **12, 13, 14**) and their probable relation to the acrolithic or chryselephantine technique.

Perhaps the most definite conclusion to which this study may point is that Greek and Roman sculptors were more ready than we have been willing to admit to employ more than a single block in the making of a marble head. Purely archaeological investigation does not tend to support the theory of a religious influence in connection with the phenomena in question, and students of religion may well be cautious in basing conclusions on so uncertain a foundation.

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[1] This may apply also to the two heads of Lucius Verus (Nos. **31, 32**) noted but not described by Gauckler.

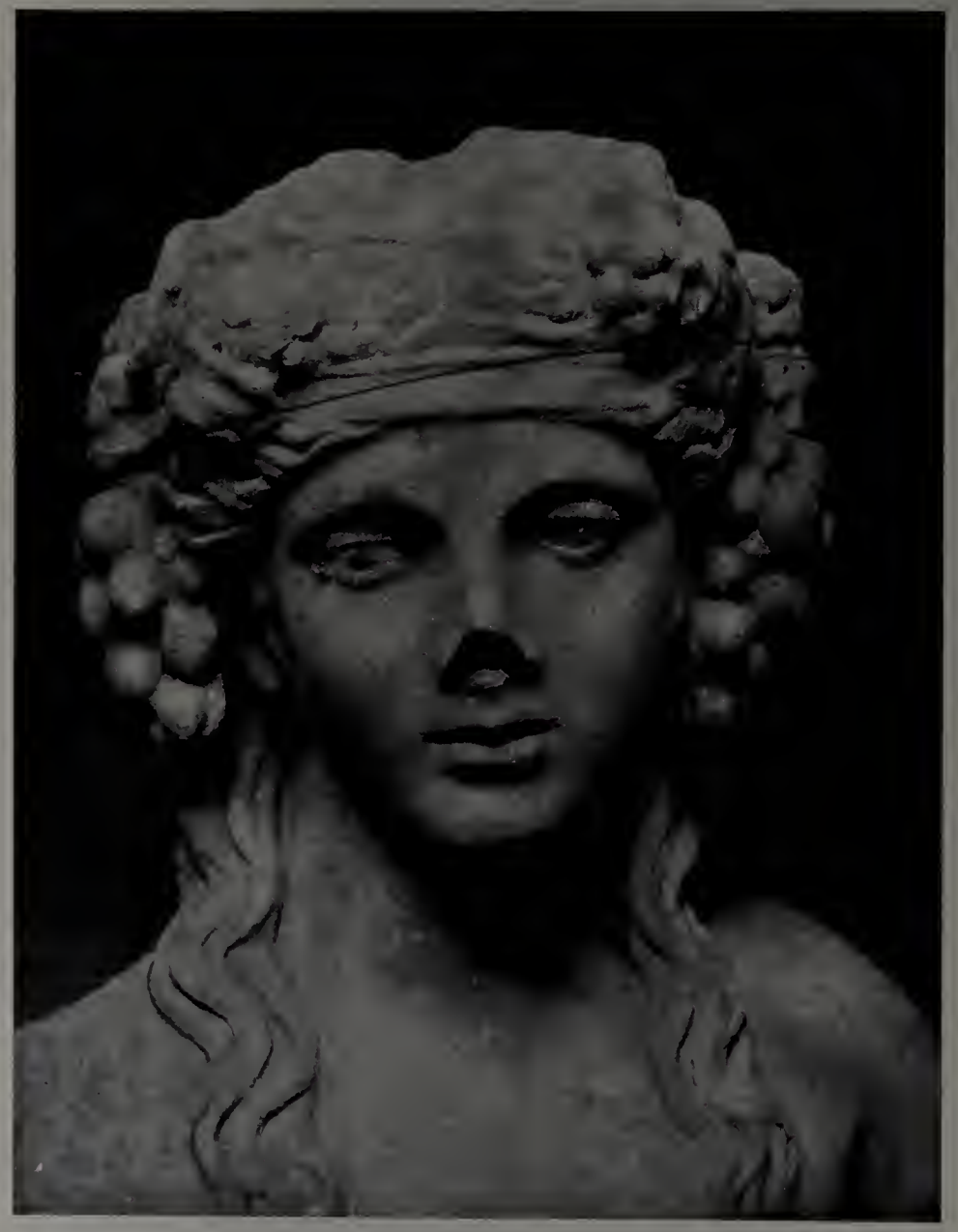


Fig. 1, Head of the Janiculan Dionysus. *Capita Desecta* No. 17.

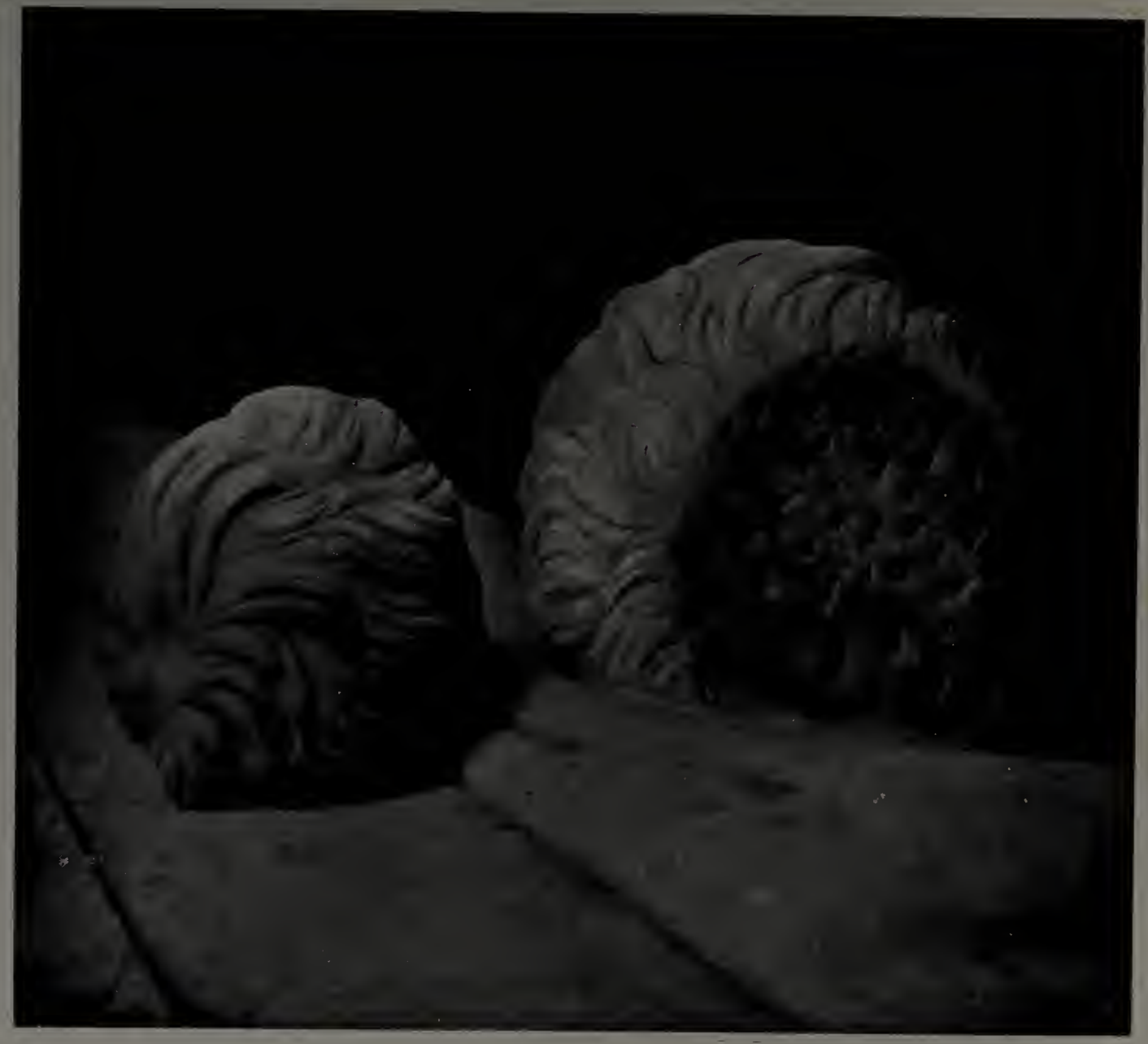


Fig. 2, Head of youth from Tre Fontane. *Capita Desecta* No. 45.

Fig. 1, Head of Julia Domna. *Capita Desecta* No. 49.

Fig. 2, Coiffure of Julia Domna. *Capita Desecta* No. 52.

1.

2.

3.

1, Scene from Trajan's Column. 2, Shield ($^{2}/_{15}$) from Corneto. 3, Black-figured Vase from Corneto.

1.

2.

3.

4.

1, Painting from Cervetri. 2, Cinctura. 3, Fibula ($^{2}/_{3}$) from Pontesodo. 4, Bronze Statuette in British Museum.

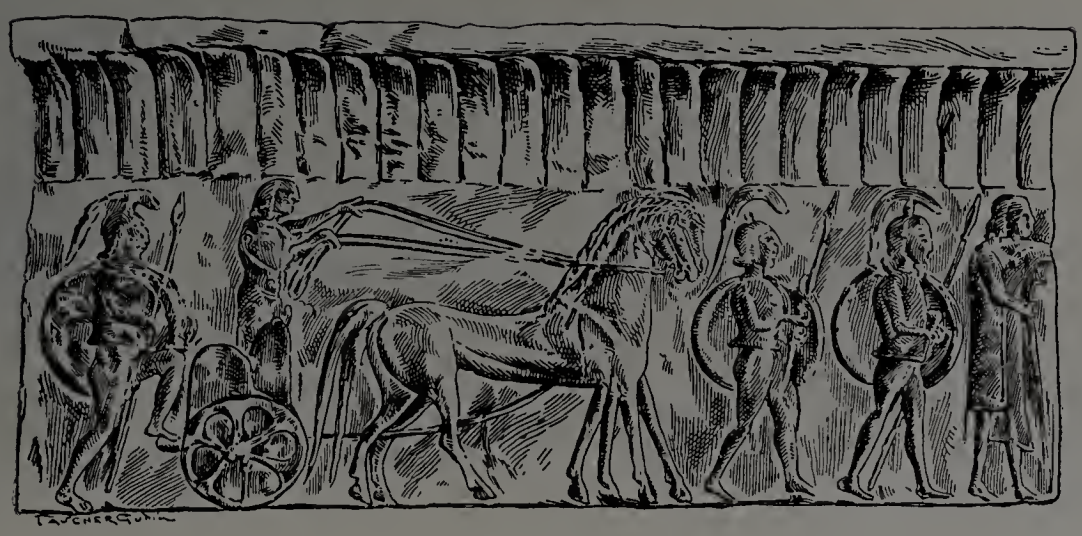
1 (2/7).

2 (2/9).

3 (2/9).

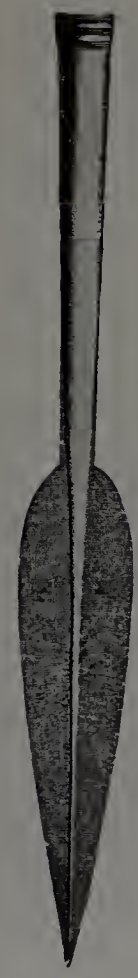
4.

5.



6.

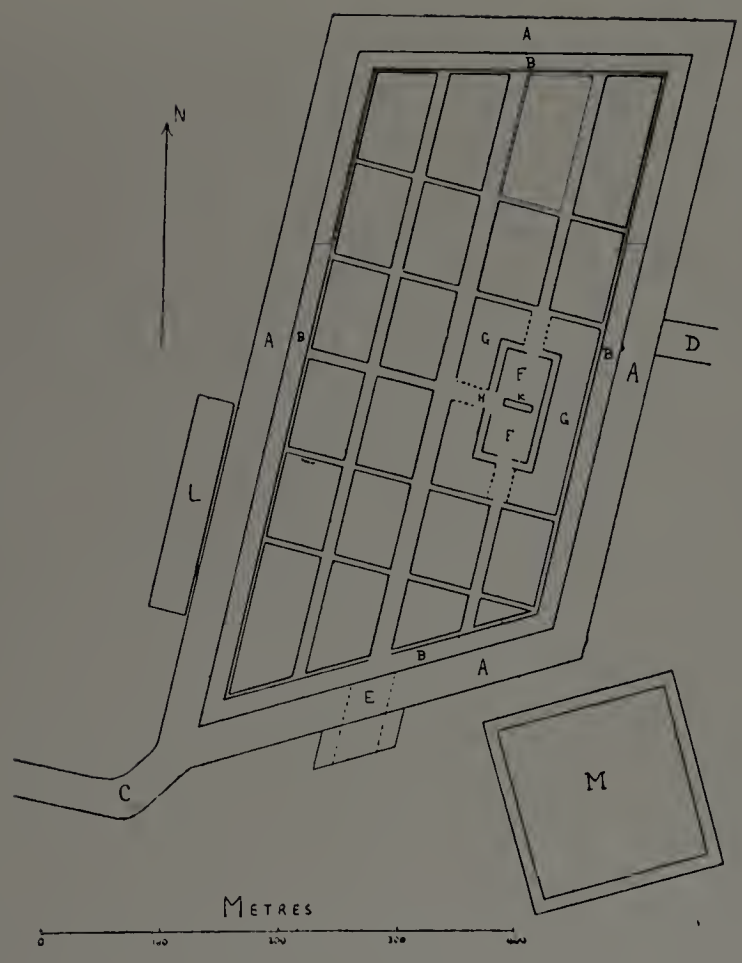
7 (1/3).



8 (1/4).

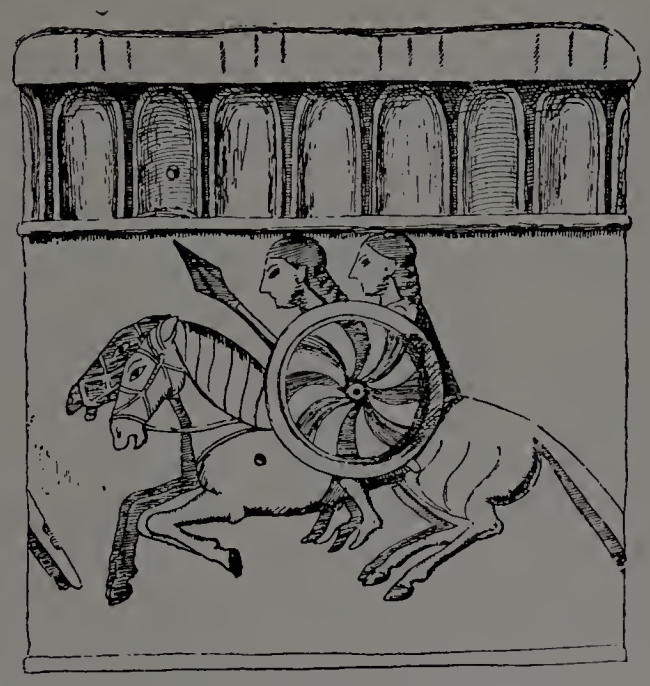
1, Spear-head from Telemon. 2, Spear-head from Corneto. 3, Sauroter from Corneto. 4, 5, Swords from Corneto. 6, Frieze from Toscanella. 7, Spear-head and Sauroter from Rome. 8, Spear-head from Vetulonia.

1.



2.

3.



4.

1, Bucchero Vase in Museo di Villa Giulia. 2, Plan of a Terramara. 3, Helmet from Rome. 4, Frieze from Cervetri.

THE MILITARY INDEBTEDNESS OF EARLY ROME TO ETRURIA.

EUGENE S. McCARTNEY.

ἀγαθοὶ γάρ, εἰ καί τινες ἕτεροι, μεταλαβεῖν ἔθη καὶ ζηλῶσαι τὸ βέλτιον καὶ Ῥωμαῖοι.

(Polyb. VI, 25, 11).

THE debt of Rome to Etruria in all fields of her life and art is receiving annually fuller acknowledgement as the evidence slowly but ceaselessly accumulates. For many of her customs and institutions, civil and religious, public and private, tradition has long ascribed an Etruscan origin, a claim that is now being substantiated by the science of archaeology. In no sphere of activity is this indebtedness more pronounced than in things military[1]. The scope and importance of the contributions of the mysterious people north of the Tiber to this department of Rome's greatness will be more readily appreciated if we draw a preliminary picture of the weapons and methods of warfare in vogue in primitive Latium prior to the establishment of close relations with Etruria.

The reconstruction of such a picture depends in large measure upon literary evidence[2]. Perhaps no single statement in the pages of a Greek or Latin writer may be

[1] For the purposes of this paper the writer has regarded as due to Etruscan influence the introduction of any element the knowledge of which was acquired from the Etruscans, irrespective of its ultimate origin. He has at times, however, noted incidentally the paths by which certain weapons made their advent into Etruria. A short summary of these is to be found on page 166, n. 3.

[2] The numerous quotations that have been culled from almost every department of Latin literature naturally vary greatly in their value as evidence. From the very nature of the case the poet is not subject to the same restraints as the prose writer, although he may be versed in archaeology, as was Vergil. The Aeneid's delineation of ancient tribes may occasionally consist of pictures of contemporary life in the by-ways of Italy, and still be reliable in the main, since in rural and mountainous districts customs and manners changed even more slowly in antiquity than they do to-day. Before rejecting Vergil's archaeology one must be very sure of his ground. (See J. W. MACKAIL, *Virgil and Roman Studies*, *J. R. S.*, III, 1-24). Some caution must, however, be exercised in passages imitative of Homer. Even the words of one and the same historian may have a different value, as in the case of Livy for the periods preceding and following 390 B. C., the date of the destruction of Rome by the Gauls, and the consequent loss of the records and documents. There is no doubt that Livy and his sources

taken with the finality of an *ipse dixit*, yet when we have a rather large mass of tradition, and this tradition is tenable on *a priori* grounds, or accords with facts which can be or have been ascertained by investigation, greater weight must be attached to it. It is the object of the present study to gather together the various threads of information, and to weave into a fabric the sporadic statements of classic authors with the almost equally scattered results of modern research.

All the evidence indicates that the earliest period of Rome's military history, of which we can get faint glimpses through the enveloping mist, was in no way greatly unlike that of her barbarian neighbors, or even of savages to-day. In many spheres of activity nations have trudged painfully up to civilization on roads more or less parallel. The civilized peoples are differentiated from others chiefly through having travelled farther.

" The archaeologist ", says Pitt-Rivers[1], " traces back the arts and institutions of his own people and country until he finds that they once existed in a condition as low or lower than that of existing savages, having the same arts, and using precisely the same implements and weapons; and he arrives at the conclusion that the difference observable between existing races is one of divergence and not of origin ". The analogies between the Greeks and the Romans in the development of military science are especially striking, as will be shown later.

Perhaps no feature of the primitive Latin accoutrements is so striking as the absence of bronze. *Nec rudis infestis miles radiabat in armis,* says Propertius (IV, 1, 27) in describing early conditions. Here we really have two statements, first that the soldier was untutored, and secondly, that he did not wear burnished armor. So, too, Vergil pictures ancient panoply in which there was no ringing shield nor resounding chariot, *Nec clipei currusve sonant* (*Aen.* VII, 686). Livy calls special attention to the fact that in the first class of the Servian organization the *galea, clipeum, ocreae,* and *lorica* were all of bronze, evidently an innovation and a contrast to the previous equipment. Propertius goes on to state (IV, 1, 28) that this crude soldiery used to engage in *proelia nuda,* i. e., they fought without shield or other defensive equipment.

Offensively the earliest weapon was a club or a shaft, sometimes hardened at the end by fire. Lucretius (V, 1284) notes the use of *silvarum fragmina rami* as primitive arms. Such weapons were never despised. A bronze figure from Sardinia represents a warrior with a stout club, although he is armed also with a good sword and dagger[2].

have at times committed anachronisms, and have used their imaginations to supply missing details. The annalists were apt to duplicate for Latin literature thrilling incidents or episodes that they found in the pages of the Greek authors. Quotations are introduced, then, only for what they are worth, especially in the introductory portion of the paper. Critical comments have been made, as a rule, only where confidence in the contents of a passage has been necessary for the further elaboration of the argument.

[1] *The Evolution of Culture and Other Essays,* p. 141.

[2] G. PINZA, *Museo Etrusco Gregoriano, Materiali per la Etnologia Antica Tuscano-Laziale,* I, p. 153.

As late as imperial days the Romans included club-men in their forces. Trajan's Column shows auxiliaries wielding clubs, in some cases knobbed or studded with nails, while their swords hang unused by their sides[1]. In one instance they are drawn up in ranks[2].

In Greece the club was employed as a weapon in Homeric times, and from this Tsountas and Manatt postulate its existence among the Mycenaeans[3]. At all events the club-armed Heracles with his animal skin represents the equipment of the pre-historic period, and the Heracles myths must have originated in the days of wooden weapons[4].

The primitive lance or spear was made without the use of metal. Professor Helbig in discussing the *hasta donatica* pertinently remarks that as long as all spears were made of wood, it was impossible for the Latins to build an expression like *hasta pura*, since every spear was a *hasta pura*. The circumstance which called this expression into life was the application of the bronze point to the wooden spear[5]. The original character of the Greek spear is manifest from the etymology of the word δόρυ (⟨ δρῦς).

The skilful use of fire constituted a marked advance in the making of spears. The crudest type would be an *usta sudes*, a shaft hardened at the end by fire, such as Propertius (IV, 1, 28) pictures in the primitive equipment. Especially illuminating in this connection is the fact that the *veru*, or *verutum*, regarded by some as preëminently a Roman and Volscian weapon, derives its name from its resemblance to the spit. Such a use of fire is common, of course, among all peoples, ancient or modern, who are not far advanced in civilization. Vergil (*Aen.* XI, 893-894) represents women of a beleaguered town as hardening weapons with fire, *robore duro stipitibus ferrum sudibusque imitantur obustis*. Likewise Statius in the Thebais (IV, 64-65) pictures warriors with fire-tempered weapons, *robora flammis indurata diu*. The Libyan and Mysian contingents of Xerxes' army carry fire-sharpened spears (Herod. VII, 71, 74).

It seems almost impossible that a people living so near to Rome as did the Oscans should have retained this type of weapon, yet before the Battle of Cannae the Romans are represented as having to replace some of their time-honored equipment, since they were still using pointless fire-hardened missiles as their fathers and fathers' fathers had done before them:

Ille viris pila et ferro circumdare pectus
Addiderat: leviora domo de more parentum
Gestabant tela, ambustas sine cuspide cornos[6].

[1] C. CICHORIUS, *Die Reliefs der Traianssäule, Taf.* XIX, XXVII, XXIX.

[2] CICHORIUS, op. cit., *Taf.* L.

[3] *The Mycenaean Age*, p. 208.

[4] Parallels may be found even further afield. The crudely armed Aethiopes of Xerxes' host carried gnarled clubs, *ῥόπαλα τύλωτα* (Herod. VII, 69), while the more advanced Assyrians substituted iron knobs for the knots, *ῥόπαλα ξύλων τετυλωμένα σιδήρῳ* (Herod. VII, 63).

[5] *Zur Geschichte der Hasta Donatica*, 28-29, *Abh. d. k. Gesellschaft d. Wissenschaften zu Göttingen, Philol.-Hist. Klasse, Neue Folge, Band* X, *No.* 3.

[6] SILIUS ITALICUS, VIII, 547-549.

It is worthy of note that in the fourth class of the Servian organization in which the sweeping reforms are not much felt, the *verutum* remains[1], evidently a survival of the older order of things.

The early warrior of Central Italy was first and foremost a spearman. Gellius has found in the historical writers as many as eighteen names for missile weapons such as spears, lances, and javelins, but only eight for sword, knife, and dagger[2]. Festus prefers the etymology which derives the word Samnite from the Greek σαύνιον, thus making it mean " spearman "[3]. A scholium on Strabo agrees with him[4]. Festus likewise regards Romulus Quirinus as Romulus 'the Spearman', and so Quirites as " Spearmen ". *Curis*, he says[5], is the Sabine word for *hasta*[6].

Even if the above etymologies for Samnites and Quirites be merely popular, they show, nevertheless, that the spear was the weapon *par excellence* of ancient Latium and Samnium. Another indication of its great antiquity is the primitive custom of using it to part the hair of the captured bride. There was still another usage which points to the ascendancy of the spear. Festus records a tradition to the effect that a disgraced soldier had to surrender his *hasta*[7], not the sword, as does a dishonored officer in a similar position to-day. At present the general of a defeated army hands over his sword; in antiquity the vanquished forces passed under spears in token of submission (cf. Livy, III, 28, 10-11), and no more abject ignominy ever befell a Roman army than being subjected to this treatment, as at the Caudine Forks (*op. cit.*, IX, 6).

The spear is the oldest weapon, properly so called, of warfare. The suggestion that from it, or from a parrying stick held in the left hand, was evolved the shield, seems quite plausible[8]. In the Museo Kircheriano in Rome may be seen long narrow shields of hide from the upper Nile with the stick running the whole length and projecting from top and bottom. Such a development as that referred to above may have taken place in Central Italy since monuments represent shields with spines more or less extended through the center.

[1] Livy, I, 43, 6.

[2] *Noct. Att.*, X, 25.

[3] S. v. *Samnites*, p. 327 M.

[4] *Schol. Strabo*, V, 250.

[5] S. v. *Curis*, p. 49 M.

[6] In like manner we find the Sigynnae along the middle Danube named from σιγύννης, 'spear' (Herod. V, 9). It seems best to regard the Gaesatae as the users of the *gaesum*, in spite of the statement of Polybius (II, 22, 1) that the word means mercenary.

[7] *Censio hastaria dicebatur cum militi multae nomine ob delictum militare indicebatur quod hastas daret*; p. 54 M.

[8] " The oblong shield is the more primitive, as the shield seems to have been evolved from the reserve spear held by the warrior in his left hand, and which he used to ward off blows or missiles. This spear survives in the assegai which forms the spine of the Zulu shield ". Ridgeway, *The Early Age of Greece*, I, p. 479, n. 2. Sir Arthur Evans holds much the same view: " It seems to me possible that the long pointed boss of these Mykênaean shields represents the original parrying-stick, which was probably the earliest form of shield. The combination of the parrying-stick and the targe or body-shield may be illustrated from various parts of the world. In Sumatra it survives as a raised keel in front of an oar-like shield. Among the Kaffirs the parrying-stick is preserved at the back of an elliptical body-shield; and this method is often followed by savage races ". *J. H. S.*, XIII, 1892, p. 215, n. 44. A good illustration of this boss is found on the same page.

We are told that Camillus taught his troops to use the long *hasta* (ὑσσὸς μακρός) to break the blows of the long heavy swords of their opponents[1]. Drawings from a tomb at Tarquinii show a shieldless warrior employing a spear to deflect another that had been hurled at him[2].

The present writer is inclined to hazard the conjecture that in the use of the dual number in describing the spears of the ancient warrior, we may see a reminiscence of the reserve spear. We find instances where expressions such as *bina hastilia* mean, not two spears each, but a pair of spears, or perhaps better still a couple of spears. The dual number was employed originally of things that go naturally in pairs, as of eyes and ears, and then by extension, of things that go artificially in pairs, such as the horses of a chariot. The use of the dual for the spears may date from a time when a pair of them was almost as natural to a man as his two legs or arms.

As weapons of offense the bow and the arrow are of course familiar in primitive communities, and Latium is no exception to the rule, as is attested by the finding of arrow-heads. In the Montes Corniculani, now known as Monticelli, there have been discovered in tombs arrow-points of good workmanship. In some instances their position below the skull indicates the use of the quiver[3]. One interesting hoard of sixteen contained two specimens which had been coated with a red oxide except at the neck. Here they retained their original color, thus revealing where the ligature and the end of the shaft had been[4].

The fossilized word *arquites* indicates a prehistoric stratum in archery. *Excello* has been taken to be a faded military metaphor meaning " to overshoot "[5], in which case the transferred use would seem to be derived from the common employment of the bow and the arrow, rather than from the spear.

The Romans early began to look with scorn upon this weapon, as did the Greeks, and the conspicuous absence of all mention of it in Livy's account of the Servian organization shows what strides the Children of Mars had already made in the infancy of their military development. When it does reappear in the hands of the auxiliaries, its users are called, not " bowmen ", but " arrowmen ", *sagittarii*. In rejecting it for themselves, the Romans were not following the example of the Etruscans among whom it continued to be used much longer.

The most obvious device for protection against spears and missiles is, of course, the shield. Both the shape and method of construction of the earliest Latin buckler were,

[1] PLUT., *Cam.*, 40.

[2] CANINA, *Etruria Marittima*, Pl. LXXX, Fig. 3. The defensive use of the spear is shown more clearly in Mrs. Gray's *Sepulchres of Ancient Etruria*, plate facing p. 180. She states that she has given a very accurate drawing of the painting.

[3] *Mon. Ant.*, XV, p. 20.

[4] *Op. cit.*, p. 22.

[5] O. WEISE, *Language and Character of the Roman People* (trans. by Strong and Campbell), p. 16.

however, far different from that of Caesar's day. Diodorus (XXIII, 2) preserves a curious piece of antiquarian lore to the effect that the Romans had originally square shields, and as he contrasts them with the round bronze shields of the Etruscans, they were of different material, most probably of hide, braced and stiffened by a framework[1].

There is another shield, the *ancile*, for the use of which by the Etruscans no evidence has been found[2]. Professor Helbig in his exhaustive researches on the attributes of the Salii[3] has come to the conclusion that the accoutrements of these priests represent the military outfit of the ancient Latin patrician[4]. He sees Mycenaean influence in the *ancilia* that they carried.

Other points of contact are supposed to exist between the martial equipment of Central Italy and the Mycenaean civilization. I shall stop to mention two or three instances. There have been unearthed in the Italic peninsula swords having a thin flat handle with raised edges, of which a Roman example has been illustrated and described by Pinza[5]. He adopts the general view that this type is like swords found in Greece, and is inclined to assign its diffusion in Italy to the last Mycenaean period. The high ridged helmet, found more or less frequently in Etruria, is believed by the same writer to have been introduced there by coasting vessels which had worked their way to Crete through Southern Italy[6]. This type, as well as the simple hemispherical helmet, Helbig himself attributes to Mycenaean influence[7].

Yet it is worthy of note that no actual remains of a two-lobed shield have been found in Italy, not even a bronze appurtenance, so that one wonders whether the *ancile* ever intercepted a missile in Latium. It is possible that it may have acquired its ritualistic significance before its advent among the Latins. Dionysius (II, 70) does, in fact, tell us that it resembled the shields carried by those performing the sacred rites of the Curetes among the Greeks.

There have been found, apparently co-extensive with the Mycenaean civilization, small bi-lobed objects used as amulets. Professor Ernest Gardner thus sums up a

[1] Shields of hide are, of course, very common. Homer (*Iliad*, XXIII, 2) describes the early Greek buckler simply as an ox-hide. Those entirely of wood are probably less frequent. The Greeks applied to the Persian shield the word γέρρον, ' wicker '. (WALDE, *Lat. Etym. Wörterbuch, s. v. gerra*, derives the Latin word from the Greek γέρρον, " Rutengeflecht, geflochtener Schild "). The Lusitani, the most valiant of the Iberians had very serviceable shields made wholly of plaited sinew (DIOD. SIC. V, 34, 4). That such materials might be used effectively even against the best weapons of antiquity, we know from the fact that the gladiators of Spartacus improvised bucklers of wicker-work and hides. (FLOR. II, 8, 6).

[2] If this type of shield was actually employed in war by the Latins, the period of its use must have overlapped the early stages of Etruscan influence.

[3] W. HELBIG, *Sur les Attributs des Saliens, Mémoires de l'Académie des Inscriptions et Belles-Lettres*, XXXVII, 1905, 2e partie, pp. 205-276.

[4] In the same manner the Montenegrins preserve as decorations in their ceremonies their antiquated ancestral weapons.

[5] *Mon. Ant.*, XV, pp. 615-616.

[6] *Op. cit.*, XV, p. 638; illustration p. 639.

[7] *Sur les Attributs des Saliens*, pp. 236-237.

monograph on this subject: " These curious objects, found among Mycenaean antiquities, have a symbolical meaning, and are of a form which is derived from shields. They are to be regarded as conventional and abridged representations of an armed divinity. To call them Palladia is the simplest way of expressing this fact "[1]. It is worth noting that Helbig's chief archaeological evidence consists of two engraved stones from seal rings.

The reason for the peculiar sanctity of the two-lobed shield has been thus expressed by a French writer: " L'arme défensive, le bouclier, est devenu au même titre que l'arme offensive un symbole divin. Si ce caractère est plus particulièrement échu à la forme bilobée dite en huit, c'est peut-être que cette forme évoquait les idoles en violon répandues dans tout le bassin égéen "[2].

A recent publication advocates the view that the *ancilia* were talismans of Mars, and that they date back to the introduction of metallurgy from Crete into Italy; that the dance is a survival of the magical dance of the Cretan blacksmiths[3]; and that the clashing of the weapons is a ritual act intended to put to flight evil spirits[4].

I hesitate to accept Helbig's view that the *ancile* was actually used in Italy for war. I am unable, however, to explain how the shield, originally purely military in character, came to be included, simply in a ritualistic significance, in a stratum of weapons and equipment demonstrably martial in origin, as was the panoply of the Salii.

The spear and shield were, then, the favorite equipment of Central Italy in primitive times, as indeed they continued to be well on into the historical period. In fact some of the vases and monuments show warriors armed only with such weapons. It must not be supposed, however, that the Roman so accoutred was not a dangerous antagonist. Even a casual examination of the wooden spears of New Guinea, of which specimens are exhibited in the Museo Kircheriano in Rome, impresses one with their formidable character.

An idea of what such equipment can accomplish even against modern arms " is afforded by the battles at Teb and vicinity between the British troops under General Graham and the Arabs of Osman Digma, in 1884. The Arabs, armed with spear and shield, and inspired with frantic courage, rushed in crowds upon the British squares. But the incessant volleys of the repeating rifles poured a ceaseless deluge of balls upon them, and not many of the blacks lived to reach the bayonets. At a few points where the line was for a moment broken, the lithe Arab with his spear proved a deadly foe; but rifle and revolver restored the day "[5].

The primitive Latin warrior was not accustomed to fight with the sword.

[1] E. GARDNER, *J. H. S.*, XIII, 1892, p. 24.

[2] RENÉ DUSSAUD, *Les Civilisations Préhelléniques dans le Bassin de la Mer Égée*, 2e éd., p. 341.

[3] R. CIRILLI, *Les Prêtres Danseurs de Rome*, p. 144.

[4] *Op. cit.*, p. 147.

[5] Requoted from H. P. JUDSON, *Caesar's Army*, p. 58.

Swordsmanship, especially the use of the point, is a mark of advancing civilization[1], and the Romans were slow in learning the lesson. In the necropolis at Alba Longa there were found lance-points, but no swords[2], a fact which lends peculiar appositeness to the *hasta*, rather than the *gladius*, as the symbol of Mars.

The absence of this weapon in the two lower classes of the Servian organization[3] is an indication that it was not part of the traditional equipment of the warrior. The words of Caeso afford further confirmation of the predilection of early Rome for the spear: Οὐκ ἦν ὁ Σαυνιτικὸς ἡμῖν θυρεὸς πάτριος οὐδ' ὑσσοὺς εἴχομεν, ἀλλ' ἀσπίσιν ἐμαχόμεθα καὶ δόρασιν[4]. The *gladius* is ignored[5]. We may feel sure, then, that it was not in primitive days that the Roman came to love " the clashing of broadsword and of shield ".

Yet the Latin warrior was not without a cutting instrument. Knife or dagger blades in stone have been found in Latium, and with the advent of the eneolithic age the triangular dagger blade of copper so familiar in Italy made its appearance[6]. It is a striking coincidence that the Greek word μάχαιρα indicated originally a knife, and not a sword.

A primitive weapon which was much used in Central Italy is the *funda*. The fifth class of the Servian organization, which was presumably least affected by innovations, continued to fight with slings and stones[7], as they had done before. Vergil, too, represents the early inhabitants of Latium as using this weapon[8]. As late as the Second Punic War several Italian peoples presented themselves for military service armed with the sling " accustomed to bring down birds from the high heaven "[9]. Though the Romans early abandoned the *funda*, slingers were always welcome among the auxiliaries, notably the Balearic contingents. A good illustration of a *funditor* is still to be seen on Trajan's Column[10].

[1] It is a surprising fact that we do not find swords included in the lists of weapons of the prehistoric settlements of Troy. See W. DÖRPFELD, *Troja und Ilion*, pp. 320 ff. A significant statement is made by the excavator of Troy: " Among the 90 moulds or thereabouts, which I collected, and which have forms for all the weapons I discovered, as well as for others which I did not find, there is not one for a sword ". H. SCHLIEMANN, *Ilios: The City and Country of the Trojans*, p. 483.

[2] BAUMEISTER, *Denkmäler des Klassischen Altertums*, s. v. *Waffen*, p. 2047.

[3] DIONYSIUS (IV, 17, 1) does, however, assign ξίφη to the fourth class.

[4] ARNIM, *Ineditum Vaticanum*, *Hermes*, XXVII, 1892, p. 121.

[5] So likewise, the Germani of the days of Tacitus made but little use of the sword. In its stead they had a sharp-pointed lance which they employed at close quarters or at a distance. TAC., *Germ.*, 6.

[6] When the Thracians joined the army of Xerxes, they had reached about the same stage of development in their armor as had the primitive Latins. Herodotus (VII, 75) informs us that they wore fox-skin caps, and buskins of fawn-skin on their feet and legs, that their weapons were spears and shields, and, as one might expect, small hand-knives, ἐγχειρίδια μικρά. Likewise the Persians when they had their short spears, their great bows and their reed-arrows, carried hand-daggers in addition, πρὸς δὲ ἐγχειρίδια (HERODOTUS, VII, 61).

[7] LIVY, I, 43, 7.

[8] *Aen.*, VII, 686-687.

[9] SIL. ITAL., VIII, 521-522.

[10] CICHORIUS, *op. cit.*, *Taf.* XLVII.

Another crude device, the axe, was presumably employed as a weapon. Specimens in stone, copper and bronze have been found in Latium in tombs of great antiquity[1], and we know that among Rome's Oscan neighbors to the south its use persisted as late as Hannibalic days[2]. Even the Etruscans still retained it when the monuments show well-made swords and spears, and indicate a high stage of military development. The early realization that its possibilities were limited is greatly to the credit of the Latins.

Having studied the weapons of the primitive Latin, we may now inquire what he wore to protect himself. Armor is slow in its development since the defense naturally lags behind the offense, and, in addition, is despised by barbaric courage. Tacitus (*Germ.* 6) describes the Germani as having shields, but states that only a few had a *lorica*, and but one or two a *cassis* or *galea*. They fought nude or else wore only a cloak. At the battle of Telamon in 225 B. C., the Gaesatae threw aside even their jerkins and trousers and engaged in battle naked[3]. On Trajan's Column there are numerous battle-scenes showing auxiliaries stripped to the waist.

Servius[4], commenting on the *cinctus Gabinus*, informs us that the ancient Latins used to enter their conflicts clad in the *toga praecincta*, since they did not yet have *arma*. By *arma* he means armor worn next to the body, as the context indicates. Although the Latins did not at that time have armor in the technical sense of the word, they were, nevertheless, not without protection, since they had their clothing of animal skins, which develops into leather equipment and finally into real armor with the advent of skill in metal-working.

Vergil represents a simple rustic of his own day as *tectus... galero* (*Moretum*, 122), the same kind of head-dress that he ascribes to primitive Latin warriors: *fulvosque lupi de pelle galeros tegmen habent capiti* (*Aen.*, VII, 688-689). Although originally the word *galea* signified the skin of a weasel or of some animal akin to it[5], the term finally became generic so that one could use the expression *galea lupina* (Prop., IV, 10, 19) of a wolf-skin helmet. On Trajan's Column the standard-bearers and the musicians are usually represented with a cape made of the head and skin of some animal.

The foot-gear was in keeping with the head-dress. It was but little more than clothing. In the plain winter garb of country life, consisting of hides turned inside out, Juvenal (XIV, 185-187) includes the high buskin. This is the same kind of foot-wear

[1] Pinza, *Mon. Ant.*, XV, pp. 13-38 *passim*.

[2] *Aclydis usus erat factaeque ad rura bipennis.* Sil. Ital., VIII, 550.

[3] Polyb., II, 28, 8.

[4] *Ad Aen.*, VII, 612.

[5] Walde (*Lat. Etym. Wörterbuch, s. v. galea*) connects the word *galea* with the Greek γαλέη, γαλῆ ' weasel ' or ' marten '. Zur Bed. von *galea* vgl. gr. κυνέη, " Hundsfell ", dann " die daraus verfertigte Sturmhaube ", endlich auch " Sturmhaube aus anderen Tierfellen ", z. B. κιδέη κυνέη ", Sturmhaube aus Wieselfell ". – Entlehnung von *galea* aus γαλέη ist dann wahrscheinlich, wenn sich die Bedeutungsentwicklung zu " Helm " schon auf gr. Boden nachweisen lässt.

that Vergil (*Aen.*, VII, 689) attributes to warriors of primitive Latium: *vestigia nuda sinistri instituere pedis; crudus tegit altera pero.* That these leather buskins, originally articles of clothing, were actually used as armor is shown by the fact that they were at times worn only on the leg that was thrust forward in fighting. We find the Samnites on one occasion taking the field with well burnished metal and yet wearing but a single greave (Livy, IX, 40, 3).

Protection for the breast and trunk was naturally secured in similar fashion by means of leather. The simplest form was a breast-piece of hide, in all probability resembling the bear-skin *pectora* worn in the Hannibalic war by some of the crudely armed peoples of Central Italy[1].

The next step after the pectoral was to protect the entire trunk. There are many monuments of ancient date on which the doublet is represented as so close-fitting that we are warranted in regarding it as made of leather[2]; in fact most of the tunics of the allies of the Romans as seen on the Column of Trajan are apparently of the same material. (See Pl. 51, Fig. 1).

The *lorica*, as the etymology of the word shows, was originally made of thongs; the coat of chain mail is an imitation of it: *Lorica quod e loris de corio crudo pectoralia faciebant; postea subcidit gallica e ferro sub id vocabulum, ex anulis ferrea tunica* (Varro, *L. L.*, V, 116). A similar transfer was experienced by the word cuirass, derived ultimately from *corium* and likewise applied to coats of mail.

For protection, then, the primitive Latin depended solely upon devices of leather, armor in the embryo. Perhaps there exists no better classical summary of his martial outfit than is found in Vergil (*Aen.*, VII, 686-690):

Nec clipei currusve sonant: pars maxima glandes
Liventis plumbi[3] *spargit; pars spicula gestat*
Bina manu; fulvosque lupi de pelle galeros
Tegmen habent capiti; vestigia nuda sinistri
Instituere pedis; crudus tegit altera pero.

In a similar stage of development we find the Persian foot-soldier at the battle of Cunaxa. He carried no metal buckler, but only a wicker shield; he had neither helmet, cuirass, nor greaves as such, but wore in their stead cap, jacket and trousers of leather. His offensive weapons were a great bow and quiver, a spear, a short sword, and sometimes a battle-axe[4].

[1] *Pectora pellis obit caesi venatibus ursi* (Sil. Ital., VIII, 523).

[2] Some of the tight-fitting cuirasses of Ionic type, such as are represented on fragments of a frieze from Cervetri, are supposed to be made of linen. See *Catalogue of the Terracottas in the Department of Greek and Latin Antiquities, British Museum,* pp. 176 ff.

[3] The slingers of the fifth class of the Servian organization have *lapides* as missiles. See Livy, I, 43, 7.

[4] A good brief summary of the Persian equipment may be found in Goodwin and White, *Xenophon's Anabasis,* p. xv.

We may conclude, then, that the chief equipment of the primitive Latin warrior consisted of a fire-hardened spear[1] and a shield of wood or leather, which tradition says was square. The two-lobed Mycenaean shield, if it was employed at all, was not in common use[2]. The bow and arrow together with the sling were among the traditional weapons. Metal had already made its appearance, but was confined to the minor weapons, owing, no doubt, to inexperience in metallurgy. There were axes in copper and bronze in addition to those in stone; knives or dagger blades in copper[3] as well as in stone have likewise been found. In place of armor animal skins were employed for body-defense.

Of course not all of these weapons were carried by one and the same person, but all of them may have been used in one and the same engagement. " In the late Chino-Japanese war, men armed with bows and arrows were serving in the Chinese army at the same time that others were furnished with the most modern form of magazine rifles "[4].

Such were in general the accoutrements of the forerunner of the Roman legionary soldier. The picture that I have drawn may, however, overlap to some extent the beginnings of Etruscan influence, which manifests itself most clearly in the wider use of metal.

Professor Warde Fowler remarks[5] that he has always considered the following lines of the Aeneid as presenting the best picture of old Italian life in the age of the first settlements and clearings made by invaders who afterwards became Latins, Umbrians and Samnites:

Armati terram exercent semperque recentes
Convectare iuvat praedas et vivere rapto.

In this passage " Virgil is speaking of the Aequi, the very people who figure so often in Livy's earlier books as descending from their hills to raid the Latin territory in the plain below ". A similar description is presented in the ninth book (607 ff.), where Vergil characterizes " the Rutuli who stand in the poem for the wilder tribes then inhabiting Latium itself ":

At patiens operum parvoque adsueta iuventus
Aut rastris terram domat aut quatit oppida bello.
Omne aevum ferro teritur, versaque iuvencum
Terga fatigamus hasta . . . . . .

[1] One might expect to find stone spear-points, yet in Italy during the palaeolithic and neolithic periods at least their existence cannot be proved with certainty. Stone objects dating from this time have now and then been taken as spear-points, but there militates against this view the fact that in the carefully studied graves of the eneolithic age, such pieces of furniture are better identified as dagger blades. See HELBIG, *Zur Geschichte der Hasta Donatica, op. cit.*, p. 23.

[2] Helbig believes that it was patrician.

[3] Only one find of a dagger of bronze south of the Tiber and within the confines of Latium was known to Pinza in 1905. See *Mon. Ant.*, XV, p. 34.

[4] RIDGEWAY, *The Early Age of Greece*, I, p. 321.

[5] W. W. FOWLER, *Note on Aeneid*, VII, 748-9, *The Classical Review*, XXVIII, 1914, p. 88.

Even though we reject the etymology which connects *populus* and *populari*[1], we may believe that among the main interests of ancient inhabitants of Latium were pillaging and ravaging.

The early Latin warrior used in fighting the same weapons that he employed in the chase; in fact his 'uniform' was his hunting costume, and he made no distinction in the way he treated his fallen foe, man or beast. He stripped (*spoliavit*) his enemy of his armor as he did the slain animal of its skin (*spolium*)[2]. This type of booty became so much a matter of course that he classified it into three divisions, *spolia opima, secunda, tertia*, and offered special rewards for the gaining of it[3].

The human mind compares an army to a bird or a beast, and the Roman was no exception. *Ala* probably likens an army to a bird of prey swooping down on its victim; *cornu* may have been suggested by the attack of an infuriated animal. The fact that neither of these words is cognate with the Greek κέρας would indicate a spontaneous or independent figurative use (cf. also οὐρά for rear).

In some early period, perhaps at this time, a freebooter terminology was developed. *Praemium*, composed of *prae* and *emere*, 'to get or take before another', meant in the first place profit derived from booty (cf. also *praeda*). *Princeps*, originally signified *qui primum capit*, 'he who is the first to seize booty' (cf. *particeps=partem capiens*)[4].

In pre-Etruscan days, then, we find the Latin a warrior; the stimulating influence of Etruria was to make of him a soldier.

What were the characteristics that enabled the infant settlement by the Tiber to assert itself above the other Latin tribes? Although the genius of a nation is as inexplicable as that of an individual, certain factors that contribute to the expression of it may be noted. Hemmed in as she was by a cordon of enemies equally brave, equally assertive, equally well equipped, Rome found it impossible to live and to let live. *Vivere erat militare.* In addition Rome was situated at the junction of a number of trade routes so that geography both forced and enabled her to exercise her latent natural adaptability and Japanese capacity for assimilation, qualities that made it possible for her to improve upon the weapons and tactics that she borrowed from her enemies. Her resourcefulness finally obtained for her such a superiority in arms as to keep the upper and

[1] MOMMSEN, *The History of Rome*, I, p. 90 (Dickson's trans.). Prof. Fay (*A. J. P.*, XXIV, 1903, p. 74) thus partially sums up a monograph on the etymology of *populus:* "Altogether the safest definition to adopt for *populus* seems to me to be 'army' (cf. *magister populi*), but 'army' as a 'fighting division', a 'detachment'. So the German word *Schar*, originally a division of an army, has come to mean in general '*multitudo*'. I would therefore derive *populus* from *po-* (cf. *pono, po-lio*) and *pello* 'drive', whence *populus* = 'driving off', – a raiding party: cf. *populari* 'to raid'".

[2] *Spolium* 'abgezogene oder abgelegte Tierhaut; dem Feinde abgenommene Rüstung, Beute'; WALDE, *Lat. Etym. Wörterbuch, s. v. spolium.*

[3] FEST., 186, 189 M.

[4] For these etymologies, see O. WEISE, *op. cit.*, p. 16.

nether mill-stones from crushing her. Writing in days of greater national security, Ovid says: *Fas est et ab hoste doceri* (*Met.*, IV, 428). For early Rome it was not merely right that she should take lessons in warfare, it was imperative.

The Etruscan peril was for several centuries the sternest menace confronting Rome. Mettius Fufetius of Alba Longa might well counsel Tullus Hostilius against the dangers of internecine warfare. " I would give you this warning, Tullus ", says he. " How great the Etruscan people is about us, and about you especially, you know better than I in just such measure as you are nearer to them. They are powerful on land, very powerful by sea. Be mindful, then, that on the day on which you shall give the signal for battle, these two lines will provide them with a spectacle [1], so that they may attack victor and vanquished alike, worn out and exhausted " [2].

The thalassocracy of Etruria was not broken until the battle of Cumae in 474 B. C., when Hiero I of Syracuse defeated their fleet. Constant attrition between the Gauls above and the Latins below gradually wore down the power of the Etruscans on land and their military power and aspirations were eventually crushed by the Romans themselves at the Battle of the Vadimonian Lake in 310 B. C.[3]. Under such teachers, in the bitter school of experience, was Rome destined to learn her initial lessons in warfare. Contact with Etruria was to inaugurate what later became an established policy: *quod ubique apud socios aut hostis idoneum videbatur, cum summo studio domi exsequebantur* [4].

As frequent reference will be made to the Servian organization, it should be stated in advance that the writer regards it, not as a group of sweeping reforms, but as a summary of the gradual transformation that had been taking place since the advent of Etruscan influence[5]. We have, in fact, a literary tradition to the effect that Tullus Hostilius instituted the entire body of military discipline and laid the foundations of military science[6]. The accounts of Livy (I, 43) and of Dionysius (IV, 16) are recapitulations of progress to date, including undoubtedly some innovations by Servius himself[7]. The name of Servius is merely a convenient peg on which to hang information, and this king may be regarded as a victim, or rather a beneficiary, of the ancient fondness for definiteness of statement.

In addressing the Senate in 48 A.D. concerning the appointment of Gallic senators, the Emperor Claudius cites the case of Servius as a precedent for the holding of office

[1] *Spectaculo*, used with obvious reference to the great games and shows.

[2] Livy, I, 23, 8-9.

[3] Livy, IX, 39, 11.

[4] Sallust, *Cat.*, 51 *fine*.

[5] Botsford, (*The Roman Assemblies*, pp. 68-69) maintains " that the comitia centuriata in the form described by Livy and Dionysius developed from the early republican military organization which was itself the result of a gradual growth ".

[6] Flor., 1, 3, 1; Oros., II, 4.

[7] These summaries cannot, however, be accepted without qualification. The introduction of the metal greave and of organized cavalry was later. (See p. 151 and 160). The enrollment for garrison duty at Rome was likewise somewhat different. (See p. 157).

by foreigners. According to Latin writers he " was a son of the captive Ocresia, according to Etruscan authorities, at one time a staunch friend of Caeles Vibenna and a companion in all his adventures. After he was overcome by a change of fortune and departed from Etruria with what was left of the army of Caeles, he took possession of the Caelian Hill and named it from his general Caelius. He changed his own name, for in Etruscan it was Mastarna, and was called Servius Tullius, as I have said "[1]. According to this version, he had had excellent training in Etruscan methods of warfare.

The wall-painting from Vulci in which Mastarna is depicted as freeing his friend Caeles Vibenna may be regarded as somewhat confirmatory of this account, since scholars consider this fresco as showing an episode in the life of the Latin king[2]. In short, Etruscan influence reached its high-water mark with Servius Tullius.

There is ample reason for placing the time of the Servian organization at the beginning of the sixth century. Helbig demonstrates that the crude equipment of the Salii was modelled on that actually in use until the seventh century at least[3]. Objects found in Esquiline graves dating from the eighth to the sixth century show so strong an infiltration of Etruscan influence that archaeologists are at a loss at times to determine whether they are importations or servile local imitations. The period above mentioned seems, then, to harmonize with the archaeological evidence.

Attention has been called by Soltau[4] to the fact that in Schulze, *Zur Geschichte Römischer Eigennamen*, the praenomina of all the kings are given as Etruscan. Such tradition and such evidence leave but little doubt that in early Rome Etruscans, or, at the least, Etruscophiles, constituted the progressive party, and that to them one should naturally look for epoch-making innovations.

We shall now consider in detail, from literary and archaeological evidence, the influence of Etruria on each weapon or piece of armor.

In noting instances of similar equipment found in the Esquiline necropolis[5] and in Etruria, I have not always been able to show that the Etruscan examples necessarily antedate the Roman, but this is not absolutely essential. In summarizing a study of the remains of the primitive necropolis, Mariani calls special attention to the fact that the civilization in Rome is younger than that to the north, that it is fundamentally dependent

[1] *C. I. L.*, XIII, No. 1668; DESSAU, *Inscriptiones Latinae*, I, 212.

[2] KÖRTE, *Ein Wandgemälde von Vulci als Document zur römischen Königsgeschichte, Jahrbuch des Instituts*, XII, 1897, 57-80; DAREMBERG-SAGLIO, *s. v. Etrusci*, p. 822; ETTORE PAIS, *Storia Critica di Roma*, I, pt. 2, p. 510 ff. For a criticism of Körte's views, see E. PETERSEN, *Jahrbuch des Instituts*, XIV, 1899, 43-49.

[3] *Sur les Attributs des Saliens.*

[4] W. SOLTAU, *Die Anfänge der römischen Geschichtschreibung*, pp. 143-145.

[5] The Esquiline Hill was in the days of Republican Rome a very unwholesome place in which to live, and for this or other reasons was never thickly settled. Fortunately for archaeology the soil remained almost undisturbed till the end of the last century. Increased building activity following the epoch of Italian independence has been the means of uncovering many very ancient

upon it, and that the counterparts of many Roman objects are found in Southern Etruria [1]. There can be no doubt, then, that the wave of influence flowed from north to south instead of vice-versa.

SPEAR.

As regards the spear, its origin has been accredited successively by writers ancient and modern to the Etruscans, Sabellians, Samnites and Iberians, and, by Latin authors, even to the Romans themselves. The ascription of its invention to so many races and to so many periods is, perhaps, the best of evidence that the *pilum* of Caesar's day is the result of a long and slow evolution. The contributions of the various peoples are, then, merely so many strata from which one can reconstruct the story of its development.

The archaic characterization of the Romans as *pilumnoe poploe* [2] is not to be regarded as evidence for the antiquity of the *pilum*. In this use the word *pilumnoe* is connected with *pilum*, 'pestle', the instrument of the god *Pilumnus*, and hence the adjective describes the population, not as military, but as pacific and agricultural [3]. Nor is the word *pilani*, commonly interpreted as 'spearmen' an indication of the early use of the *pilum* (See p. 157).

Servius [4] looks upon the *pilum* as being as distinctively Roman as the *gaesum* is Gallic, or the *sarissa* Macedonian. Lucan, too, regarded it as typically Roman, and so " Eagles matched with eagles, *pila* menacing *pila* ", was a most impressive way of indicating civil war (*Phars.*, I, 7). The *pilum*, however, was entirely Roman only in the sense that Quintilian could say of satire: *Satura tota nostra est.* As the labors of Lucilius and Horace finally determined the proper vehicle for the expression of satire, so the efforts of Marius and Caesar evolved a type of spear with the maximum of efficiency. The genesis of both lay further back.

Servius records another tradition [5], in which he clearly puts little confidence, to the effect that many saw in the expression *veru Sabellum* the *pilum* of the Romans: *multi volunt.... per veru Sabellum pila significari.* In the estimation of Servius [6], this passage

graves in this section, and has shown in fact that it was the chief burying-ground of the pre-historic city. A part of the cemetery is enclosed by the line of the so called Servian agger, now dated in the fourth century B. C., so that we have a late *terminus ante quem.* The ancient custom of forbidding burial within the city limits would throw the date much farther back. Mariani uses the evidence from these graves in reconstructing a partial picture of the external manifestations of life in Rome from the eighth to the sixth century. MARIANI, *I resti di Roma primitiva, Bull. Com.*, 1896, 5-60.

[1] MARIANI, *op. cit.*, pp. 42-43.

[2] FESTUS, 205 M.

[3] A.-J. REINACH, *Pila Horatia et Pilumnoe Poploe, Revue de l'Histoire des Religions*, LV, 1907, pp. 317-346.

[4] SERV., *ad. Aen.*, VII, 664.

[5] *Loc. cit.*

[6] *De Sabellis Varro in Age Modo sic ait terra culturae causa attributa olim particulatim hominibus, ut Etruria Tuscis, Samnium Sabellis*; SERV., *ad Georg.*, II, 168.

would practically ascribe the origin of the *pilum* to the Samnites, whose claims will be discussed later on.

There is an interesting passage in Plutarch (*Camillus*, XL), on the authority of which the invention of the *pilum* is sometimes credited to Camillus: αὐτοὺς δὲ τοὺς στρατιώτας ἐδίδαξε τοῖς ὑσσοῖς μακροῖς διὰ χειρὸς χρῆσθαι, καὶ τοῖς ξίφεσι τῶν πολεμίων ὑποβάλλοντας ἐκδέχεσθαι τὰς καταφοράς. This cannot mean that Camillus introduced the spear. The emphatic words are διὰ χειρός, *i. e.*, the innovation was its use merely as a hand-weapon for parrying. In exhorting his followers to have courage, he gives as one reason for confidence the fact that they had the *pilum* instead of the lance, ἀντὶ λόγχης ὑσσός[1]. Perhaps this conflict with the long swords of the Gauls helped to teach the Romans the advantages of a heavier spear.

A recent writer, Schulten[2], would assign the origin of the *pilum* to the Iberian peninsula at the time of the siege of Saguntum. He notes the remarkable similarities in the *phalarica* and the *solliferreum*, the great extension of the metal, their general slimness with increasing width in the center, and their barbed points. These, he says, are the characteristic elements of the Roman spear. This is true, as regards the *pilum* of Caesar's day, but not necessarily so in the case of the *pilum* antedating the Second Punic War. Livy expressly compares the *phalarica* to a contemporary *pilum*, and points out a distinguishing feature of the former, its three feet of iron[3]. Unless we disregard Livy's description, at once a comparison and a contrast, and assume numerous anachronistic uses of the word, the *pilum* had existed long before the siege referred to. The Romans had previously been making great strides in the use of iron for the spear. On the battlefield of Telamon where in 225 B. C. they and their allies fought the Celts there have been found eleven iron spear-heads approximately 15 inches long[4]. Instead of being folia-form, they had a long point with four faces and a short round base, some of them preserving the nail or pin for affixing them to the shaft. This find alone is sufficient to explain why Livy should stop to comment on a weapon which had three feet of its shaft in iron.

The contribution of the Iberians, we may conclude, was the driving home upon the Romans the advantages of a shaft with more iron, an improvement which they themselves had been able to effect through their great skill in working and tempering metals. My issue with Schulten is largely verbal. He sees in the *phalarica* 'das Vorbild der berühmten römischen Waffe'[5]: I see in it 'the model of the *famous* Roman weapon', but I believe that there existed an earlier cruder type of *pilum*.

[1] Dion. Hal., XIV, 9.

[2] A. Schulten, *Der Ursprung des Pilums, Rhein. Mus.*, LXVI, 1911, pp. 573 ff.; Schulten has expressed the same view more recently (1914) in *Numantia*, I, *Die Keltiberer und ihre Kriege mit Rom*, p. 217.

[3] Livy, XXI, 8, 10-11.

[4] Milani, *Studi e Materiali*, I, 1899, pp. 125-126.

[5] *Numantia, loc. cit.*

Another writer, A.-J. Reinach[1], traces the ancestry of the *pilum* further back, maintaining that it was introduced during the half-century of Samnite conflicts between the Latin and Tarentine wars, that its use was restricted at first to the *hastati*, then passed to the first line, and was finally extended to the *principes*.

The words on the authority of which modern writers generally feel warranted in ascribing the *pilum* to the Samnites are those attributed to Caesar by Sallust (*Cat.*, 51) *arma atque tela militaria ab Samnitibus... sumpserunt (maiores nostri)*. However there is a tradition better substantiated. The anonymous Vatican MS. is most explicit[2]: οὐκ ἦν ὁ Σαυνιτικὸς ἡμῖν θυρεὸς, πάτριος οὐδ' ὑσσοὺς εἴχομεν, ἀλλ' ἀσπίσιν ἐμαχόμεθα καὶ δόρασιν..... Σαυνίταις καταστάντες εἰς πόλεμον καὶ τοῖς ἐκείνων θυρεοῖς καὶ ὑσσοῖς ὁπλισθέντες..... ἐδουλωσάμεθα τοὺς μέγα ἐφ' ἑαυτοῖς πεφρονηκότας.

The Samnites, as is well known, were good soldiers, and understood how to adapt their weapons and tactics to mountain warfare. When their armies met the Romans in the Second Samnite War, they were equipped with special shields which tapered to a point at the bottom, a shape that facilitated handling[3] in a rough country. The manuscript just quoted shows that their shields and spears were heavier than those of the Romans. The greater mobility and freedom of action of their opponents forced the Romans to resort to the loose manipular formation. As engagements were likely to break up into individual encounters, it is not surprising if the Romans increased both the weight and strength of their spear, a move that was providential in view of the imminent attacks of the sarissa-equipped Macedonians under Pyrrhus.

The following is the chief evidence relied upon by Reinach[4] for his conclusions. In the earliest years of the third century B. C., *pila* appear in the hands of Romans in a fresco of a tomb on the Esquiline, a painting that one should probably recognize as a copy of one of the episodes of the Samnite wars with which Fabius Pictor decorated in 304 B. C. the walls of the temple of Salus. Again, the earliest dependable literary references, according to his view (*op. cit.*, p. 242), are to events occurring during the course of the third century. At Asculum in 277 B. C. Pyrrhus was wounded in the arm by a *byssos (pilum)*[5]. The same weapon was used with good effect in 250 B. C. against the elephants of Hasdrubal at Panormus[6].

Before further discussion it may be well to stop long enough to quote from Polybius (VI, 23, 9-11) the first lengthy description we have of the *pilum*: " Some of

[1] A.-J. Reinach, *L'Origine du Pilum, Rev. Archéol.*, Série IV, X, 1907, pt. I, 243 ff., 425 ff.: pt. II, 125 ff., 226 ff.

[2] Arnim, *Ined. Vat., Hermes*, XXVII, 1892, p. 121. Arnim believes that the date of this document is the first or second century A. D.

[3] Livy, IX, 40, 2.

[4] *Rev. Archéol.*, X, 1907, p. 232-235 ; illustration, p. 234. Helbig, *Führer*[3], I, No. 967.

[5] Plut., *Pyrrhus*, 21.

[6] Polyb., I, 40, 12.

the *pila* are thick, some fine. Of the thicker, some are round with the diameter of a palm's length, others are a palm square. The fine *pila* are like moderate sized hunting spears, and they are carried along with the former sort. The wooden haft of them all is about three cubits long; and the iron head fixed to each haft is barbed, and of the same length as the haft. They take extraordinary pains to attach the head to the haft firmly; they make the fastening of the one to the other so secure for use by binding it half way up the wood, and riveting it with a series of clasps, that the iron breaks sooner than this fastening comes loose, although its thickness at the socket and where it is fastened to the wood is a finger and a half's breadth [1]. Such a *pilum* did the Romans use at Cannae.

Polybius is describing a type of *pilum* that was almost contemporary. Starting out with this description as a definition, one might agree with Schulten that the beginning of the *pilum* is to be found in the *phalarica;* but literary and archaeological evidence prove a less developed type, which we may, with Reinach, assign to Samnite influence, without, however, denying the existence of a still earlier form.

The etymology of the word *pilum* seems to convey the idea of piercing or penetrating[2]. At all events we know that the Romans were seeking a powerful weapon which could force its way through every means of defense. Livy in contrasting the *sarissa* and the *pilum* states that the latter is not a little more violent in its stroke and impact[3]. The disparity would be even more pronounced in a comparison with the *hasta*. Camillus calls attention to the difference between the lance and the *byssos* (= *pilum*)[4]. The latter is characterized as ἄφυκτον, *i. e.*, it is a weapon with greater penetrating power. Papirius Cursor speaks with the greatest pride of the effectiveness of the spear: *non enim cristas vulnera facere, et per picta atque aurata scuta transire Romanum pilum*[5].

The most natural view, then, of the origin of the *pilum* is to regard it as the offspring of the *hasta*, and as acquiring its special name 'penetrator' only when its increasing weight and consequently greater penetrating power differentiated it from the lighter weapon. Other types of the *hasta* were designated by special adjectives such as *longa* and *velitaris*. The priority of the *hasta* is sufficiently attested by its connection with the early legends of Rome.

The employment of the *pilum* has been attributed by Livy to the years 340 (VIII, 8), 480 (II, 46), and to 494 (II, 30); by Frontinus to 494 (II, 1, 7); and by Dionysius to 503 (V, 46). These uses have naturally been regarded as anachronistic,

[1] SHUCKBURGH'S trans.

[2] *Pilum* wahrscheinlich als +*pigslom* ‖ Waffe zum Anspieszen ‖ zu *pignus*, wenn dies auf einer Wz. +*pig-* oder +*pik-* ‖ festnageln, stechen oder dgl. ‖ beruht. WALDE, *op. cit.*, *s. v. pilum.*

[3] LIVY, IX, 19, 7.

[4] DION. HAL., XIV, 9.

[5] LIVY, X, 39, 12.

although during a portion of this time at least a distinction must have been arising in fact, if not in name, between the *hasta* and the *pilum*.

As for the *hasta*, there is evidence, both literary and archaeological, for crediting Etruria with its introduction. Pliny (*H. N.*, VII, 201) records a tradition of an Etruscan origin for one form of this weapon: *(invenisse dicunt) hastas velitares Tyrrenum*. Isidore (*Orig.*, XVIII, 57) gives the same information in an alternative etymology, but, with the ancient fondness for localizing events, thrusts its invention upon a town unknown to us: *Velites..... a civitate Etruscorum, quae Veles vocabatur* [1]. The evidence of Livy is more satisfactory. In the Servian organization, the *hasta* is introduced into the first three classes, but the older *verutum* which it succeeded in partially displacing is retained in the fourth class.

A passage from Diodorus (XXIII, 2) shows how the Romans were surprised by the bronze shields of the Etruscans, and were themselves forced to resort to the same type. The change would have left them still too much handicapped if they had not adopted the heavy bronze-tipped spear with which old monuments show the Etruscans were equipped. A good instance of it is seen in a well preserved painting on a terracotta slab of about 600 B. C. from Caere (See Pl. 52, Fig. 1). On it appears a highly developed Etruscan spear with its shaft in red and its metal point in black [2].

If we might trust the tradition [3] that the Argive shield, so conspicuous in Etruscan armor, and the Greek δόρυ long survived in Falerii and Fescennium, it would be natural to infer that these two cities may have played some part in spreading the use of these weapons.

Bronze and iron heads of two or three inches for the light lance and of seven or eight for the *hasta* have been found in pre-historic burial grounds within the city of Rome itself. They are merely duplicates of the types so common in Etruria, though in all probability forged in Latium. As a rule, they have conical or polygonal sockets, while the main body of the metal is conical with the familiar leaf-like extensions on the sides. These projections seem in course of time, with increasing skill in the knowledge of casting metals, to have moved up the metal head (Cf. Pl. 53, Figs. 2, 7 and 8), not, of course, to the exclusion of the common type, till they finally merged with it. Remove the foliaform sides of these spears, and you have one of the marked characteristics of the *pilum* proper, in which the metal forms an attenuated cone, or pyramid, usually of four sides.

Pinza illustrates a lance-head from the Esquiline [4], which tapers gradually from an octagonal base to a cone at the tip (See Pl. 53, Fig. 7). Especially interesting for our

[1] Cf. bayonet, " so called, it is said, because the first bayonets were made at Bayonne ", *Webster's Dict.* Cf. also pistol Pistoia ; " dum-dum " Dum-Dum.

[2] MURRAY, *J. H. S.*, X, 1889, Pl. VII.

[3] DION. HAL., I, 21.

[4] *Mon. Ant.*, XV, p. 101.

investigation is a fragment, 9 cm. long, from the Forum necropolis[1]; it has a cylindrical socket with fibres still adhering to it. The main body of the weapon is an attenuated four-sided pyramid. The missing end was probably supplied, like the ordinary type, with the side-wings. Without the leaf-like sides this type is not very dissimilar to the kind used in 225 B. C. at Telamon (See Pl. 53, Fig. 1). On that battle-field there were unearthed, as we have noted, eleven specimens, approximately 40 cm. long, with the attenuated quadrangular points[2].

We may carry our story one step farther. Diodorus Siculus (V, 34, 5) states that the Celtiberians had *saunia* entirely of iron and equipped with *amenta,* and he goes on to say that they throw with great accuracy and with distance and power. The relation of the metal to the efficiency of the spear was that of cause and effect. It gave a well-balanced weapon not subject to the caprice of wind or weather. The Spanish missiles, then, provided the Romans with an admirable model. They proceeded to *adapt* them, they did not *adopt* them. We are told that it was the *use* of the *saunion* that the Romans learned from the Iberians[3].

Polybius[4] states that the σαυρωτήρ, or spike at the butt end of the spear, was adopted from the Greeks. The statement is true, but not the whole truth. Good specimens of this device have been found in early Etruscan tombs, as in the *Tomba del Guerriero* at Corneto (See Pl. 53, Fig. 3). The *sauroter* has, likewise, been found in Latium in graves as early as those of the Esquiline necropolis (See Pl. 53, Fig. 7). Under the circumstances it seems best to regard Etruria as the intermediary for this addition to the spear.

Further evidence of a desire to improve the spear-point may be seen in the Etruscan rooms of the *Museo dell'Università* at Perugia. There are several specimens with two blades arranged at right angles, thus giving four cutting edges, and at least one example with three edges.

We would conclude in general, therefore, that owing to Etruscan influence a metal point was introduced for the *hasta,* thus inaugurating a tendency toward greater weight[5]; that before the Second Punic War, probably even before the long series of conflicts with the Samnites, a heavier type of spear was developed, ultimately becoming so distinctive as to warrant a special name, *pilum*; and that during the Hannibalic War the Romans learned how to use and distribute iron to better advantage on this weapon.

[1] Illustrated in *N. S.*, 1903, p. 385; described by Boni, p. 386.

[2] Milani, *Studi e Materiali,* I, 1899, p. 126.

[3] Athen., VI, p. 273 f.

[4] Polyb., VI, 25, 6-11.

[5] According to Helbig (*Zur Geschichte der Hasta Donatica,* p. 27), the bronze spear-point in the western lands is due to contact with Mycenaean culture.

SWORD.

Before considering the possible origin of the Roman *gladius*, we should stop to note the relationship, so far as this is possible, of certain pre-historic swords found in or near Rome.

There has been excavated on the Esquiline a specimen with an iron blade and a shaft-like handle[1]. The inexperience and insufficient technical skill of the Roman artisan is shown by the fact that he did not know how to perforate a small disk of metal so that the handle would fit exactly[2]. Similar swords have been found at Novilara[3], at Bisenzio, at Terni, and on the *Scoglio del Tonno* at Tarentum[4].

A long rapier-like blade of bronze, unearthed beside the Tiber near Rome[5], has been compared to similar swords in Sicilian graves of the 12th century B. C., and its ultimate prototype has been recognized in Mycenaean warrior-graves[6] of the 15th century B.C.

A bronze antennae sword from the Esquiline is the most southern example of this type found in Italy[7]. Others similar have been discovered at Corneto, Terni and Vetulonia. Pernier remarks, apropos of the specimen at Vetulonia, that it seems to indicate that the type persisted and maintained itself in Etruria beyond the beginning of the age of iron, that is, even till the time of the fine bucchero ware[8]. This style of sword had worked its way down from its home in central Europe.

Rome affords an example of still another type of sword, with a flat handle having raised edges and terminating at the top in a crescent. The blade begins to become narrow from the point of its insertion in the handle and forms an attenuated triangle[9].

This type of sword, says Naue, is well defined in southern Italy, being an importation in that region. It lasts well on into the age of iron, from which fact one can explain how analogous examples are found elsewhere, as at Corneto and in the rich group of sepulchres at Cervetri, to which belongs the famous Regulini-Galassi tomb[10]. Excellent swords of this character come from Vetulonia also[11]. Three such swords from Corneto, one in bronze and two in iron, are compared by Helbig to a specimen from the Acropolis of Mycenae[12].

These examples indicate that there was no distinctively Latin type of sword, and these pre-historic *gladii* must be attributed to local imitation or importation. Most of

[1] Illustrated in *Mon. Ant.*, XV, Pl. XV, Fig. 1.
[2] *Op. cit.*, p. 549.
[3] *Op. cit.*, p. 578.
[4] *Op. cit.*, p. 437.
[5] Illustrated *op. cit.*, p. 584.
[6] Naue, *Die vorroemischen Schwerter*, p. 9. Helbig (*Sur les Attributs des Saliens*, p. 244) refers it to the zenith of Mycenaean culture. Pinza (*Mon. Ant.*, XV, p. 583) compares it with Sardinian specimens.
[7] *Mon. Ant.*, XV, p. 436; illustrated Pl. III, Fig. 5.
[8] *Le Armi di Vetulonia*, p. 232 in Milani, *Studi e Materiali*, III, 1905.
[9] *Mon. Ant.*, XV, p. 615.
[10] *Bull. di Paletnol. Ital.*, XXII, 1896, p. 98.
[11] Pernier, *op. cit.*, pp. 235-236.
[12] *Sur les Attributs des Saliens*, p. 244.

them may be regarded as 'freaks', so far as Latium is concerned, since the central Italian was a spearman, not a swordsman, as we have seen. The long Mycenaean sword probably dates back to an epoch even anterior to the immigration of the Etrusci into Italy[1]. The antennae type came from the North. As the Greeks had much closer relations with Etruria, notably the southern part, than with Latium, it is but natural to infer that Etruscans were the intermediaries for all kinds of Greek swords found in greater numbers north of the Tiber than in Latium.

The history of the development of the sword is approximately as follows. It began in a short triangular-bladed dagger of copper; then with the knowledge of casting it was gradually lengthened into an attenuated triangle of bronze, with some of the intermediate stages of such a length, that one does not know whether to call certain specimens daggers or short swords. The next step in Latium must have been toward the widening and strengthening of the blade until it assumed the shape of the familiar Roman legionary sword with parallel sides and comparatively short point. The precise time and method of effecting the last change is not, of course, clear.

As the Graeco-Etruscan influence had no worthy rival in Rome during the formation of her great military system, the conclusion is inevitable that to Etruria one must look for the ancestor of the typical *gladius*, however much the Romans may have modified it or developed it. Etruscan vases, urns and tomb-paintings show almost every conceivable type of the short two-edged thrusting sword.

We are told by Livy (I, 43) that Servius included the sword in the equipment of the first three classes of his reorganization. It was lacking in the others, a fact which indicates that the sword was not a traditional part of the panoply of the average soldier. Archaeology proves the same thing. In early warrior-graves *a pozzo*, *a fossa* and *ad arca* in Central Italy, spear-points are taken as a matter of course, but the presence of a sword is regarded as remarkable.

The sword that won Caesar's victories was looked upon as Spanish. It was short, it had two cutting edges, and it was pointed. If it can be shown that these characteristics date back to a time prior to the conflicts with the Iberians, and that they were common throughout the period assigned to the hegemony of the Gallic sword, we shall have some of the features, though not the shape, of the traditional sword with which Etruscan Servius Tullius provided the Roman army.

Scholars have long accepted the account of Polybius (Fragm. XXII)[2] in regard to the Spanish origin of the short Roman sword. It runs as follows: " The Celtiberians excel the rest of the world in the construction of their swords; for their point is strong

[1] HELBIG, *Sur les Attributs des Saliens*, p. 244.

[2] SUIDAS (s. v. μάχαιρα) quotes this passage.

and serviceable, and they can deliver a cut with both edges. Wherefore the Romans abandoned their ancestral swords after the Hannibalian War and adopted those of the Iberians "[1]. The authenticity of this passage as Polybian has been questioned, but perhaps without good reason. However, in another place (VI, 23, 6) the great historian says the Romans called their sword Iberian. The words of Livy in which he contrasts the swords of the Gauls and Spaniards might be regarded as confirmatory of the statements of Polybius. They are worth quoting. " Their swords were unlike in application and in appearance; those of the Gauls are unusually long and are not pointed, while the Spaniard, accustomed to assail his man by a thrust rather than by a blow, had swords readily handled, thanks to their short size, and equipped with points "[2].

Yet Livy is not consistent with himself. If he believed that the short thrusting sword was introduced during the Second Punic War, then he is guilty of anachronisms in treating his legendary material. According to his version of the story of Manlius and the Gaul, the Roman champion equips himself for his encounter with a sword adapted for close fighting, *gladio ad propiorem habili pugnam*[3], and then, getting within the guard of his opponent, he drives home into his vitals one thrust after another[4]. In the animated description of the combat between the Horatii and the Curiatii, the last Roman survivor rises above the defense of the sole remaining Alban, and from his higher position, he plunges his sword into his victim's throat[5].

The first of these stories may not be historical, and the second has, supposedly, some Greek elements in it, yet both are probably trustworthy in depicting the use of weapons. An annalist would have defeated his own purpose had he incorporated in his narrative Greek methods of fighting or handling arms. However we have more reliable evidence.

Polybius provides clear proof that the short thrusting type of sword was in common use before the Battle of Cannae. In an engagement fought by C. Flaminius in 223 B.C., the Insubres are pictured as having swords without points[6], a description that would be superfluous unless in contrast the Roman weapon was pointed. Commenting on the superiority of the Roman weapons to those of the Celts at the Battle of Telamon in 225 B.C., the same author states that there was a marked difference in the employment of the swords, since that of the Celts was capable only of slashing[7]. The sole implication is that the Roman type had the advantage of thrusting. In fact, as Polybius continues, he becomes very specific: " When the Celts had rendered their swords useless by the

[1] Shuckburgh's trans.
[2] Livy, XXII, 46, 5.
[3] Livy, VII, 10, 5.
[4] Livy, VII, 10, 10; cf. Gell., *Noct. Att.*, IX, 13, 16-17.
[5] Livy, I, 25, 12.
[6] Polyb., II, 33, 5.
[7] Polyb., II, 30, 8.

first blows delivered on the spears, the Romans closed with them, and rendered them quite helpless by preventing them from raising their hands to strike with their swords, which is their peculiar and only stroke, because their blade has no point. *The Romans, on the contrary, having excellent points to their swords, used them not to cut, but to thrust:* and by thus repeatedly hitting the breasts and faces of the enemy, they eventually killed the greater number of them "[1].

Such quotations might be multiplied, but enough have been cited to show that the evidence of the very writers upon whose authority the tradition of the Spanish sword arose, points even more strongly to a prior use of the pointed thrusting type. In fact one writer contends on archaeological grounds that at the time of the second Punic War the sword of the Iberians was the *espada falcata*[2], and is inclined to think that the expression *gladius Hispanicus* has reference, not to the type of the sword, but to the improved quality, due to greater skill in manufacture acquired from the Iberians[3].

The use of the term 'Spanish', to designate the favorite weapon of the Romans probably originated in a very natural way. It is, of course, well-known that the typical Gallic sword was adapted to slashing, and, in comparison with the Roman, abnormally long. Livy (XXII, 46, 5) applies to it the adjective *praelongus* and Dionysius (XIV, 9) employs a Greek word etymologically equivalent ὑπερμήκης. In 223 B. C. the Romans were engaged in a bitter struggle with the Insubres, and after but a brief interval had to pit themselves against the Iberians. Thus the contrast in the appearance and method of use of the two types of sword were brought out into high relief, especially since the Spanish contingents at Cannae opened the eyes of the Romans to the greater possibilities of the short sword[4]. Hence from the time of the Hannibalic War the Roman sword

[1] POLYB., II, 33, 5-6; SHUCKBURGH's trans.

[2] H. SANDARS, *The Weapons of the Iberians,* pp. 58-61. In spite of the conclusions of Sandars, based as they are on archaeological evidence, one feels hesitation in discarding all the literary data in regard to the type of sword the Iberians used. Livy's statement is explicit; Diodorus Siculus (V, 33, 3) ascribes to the Celtiberians *ξίφη ἀμφίστομα* and says (V, 34, 5) that those of the Lusitani were the same. Polybius living in the generation after the battle of Cannae had abundant opportunity to learn what type of sword the Iberians used. At all events there is no doubt as to what type the Romans of a later day thought they used.

The contradiction of literary and archaeological evidence may be reconciled to some extent if we can regard the Iberians as making frequent use at Cannae of their *παραξιφίδες*, which Diodorus goes on to tell us they employed at close quarters. In others words they may have demonstrated to the Romans the possibility of transferring to the sword the methods of the dagger even more than they had done in the past. Sandars says it is probable that the Romans did adopt the Iberian dagger and imitate their method of using it.

[3] The Romans may well have been in need of some lessons in metallurgy if one of the engagements of the Fabii is any criterion. Some of their swords are said to have become dulled and others broken. (DION. HAL., IX, 21, 4). Stories grew up about Iberian efficiency in preparing metal. After stating that the arms and armor of the Celtiberians are unique, Diodorus recounts (V, 33, 4) that they bury sheets of metal in the ground and let it remain there long enough for the rust to eat out the weak part, leaving only what is strongest, and that from this they make remarkable swords and other things for war; and that in fact a piece of armor of such material wards off everything striking it, and that neither shield nor helmet nor bone can withstand a blow of a weapon made from it, thanks to the superiority of the iron.

[4] Both Romans and Etruscans had, however, long before shown a great predilection for the sword. At

received the epithet 'Spanish', and in the wake of this myth there followed the natural inference that the Romans had previously used a Gallic sword.

When Livy (VII, 10, 5) and Claudius Quadrigarius (ap. Gell., *Noct. Att.*, IX, 13) apply the adjective 'Spanish' to the sword with which Manlius killed his Gallic opponent, they are guilty of anachronism only in the sense that we are in saying that "the Elgin marbles were not thought worthy of mention by any ancient writer except Pausanias".

It has been supposed that it was a Gallic sword that was replaced by the Iberian. This idea may be due, to some extent, to a feeling that the Romans must have resorted to a long sword in order to be on an equal footing with the Gauls. Our previous quotations have shown incidentally that even during the period assigned to the Gallic sword, no appreciable headway could have been made against the general use of the short 'cut-and-thrust' type. The resourceful Camillus counteracted the advantage that their longer sword gave to the Gauls, not by lengthening the *gladius* of his own men, but by teaching them how to parry with their spears (See quotation from Plutarch, p. 136).

The shape of the Servian sword can only be conjectured, but it is noteworthy that the farther back one goes, the greater seems to be the tendency toward the triangular blade. Monuments which are full of Greek myth and legend, such as the urns, vases, and the tomb-paintings, do, it is true, show infinite variety in the form of the sword, but the only actual bronze and iron remains that are found with any frequency are triangular in shape. Good specimens have been discovered at Cervetri, Corneto (See Pl. 53, Figs. 4 and 5) and Vetulonia, as mentioned before (p. 141), and in other places. An excellent example from Satricum in Latium is preserved in the *Museo di Villa Giulia*.

There is in the same museum a seventh or sixth century bucchero vase which comes from Narce (See Pl. 54, Fig. 1). On it are represented two warriors crudely designed, but the triangular blades of their swords are unmistakable. The handles, although the haft is conventionally represented by a single line, are evidently like those of the swords just referred to, since they end in a crescent. Another good instance of the same type may be seen on a Chiusi vase now in the Palermo Museum.

I regard the bucchero vases more dependable as evidence for Etruscan manners and customs than are the other classes of monuments. They do, it is true, show traces of Ionic and mainland Greek influence, but they were made in Etruria for the Etruscans, and the art upon them is more thoroughly Etruscanized than in the case of the other vases, the urns and the tomb-paintings.

Swords like those of the bucchero vases may be seen in the hands of two warriors

the battle of the Vadimonian Lake, neither side threw a missile, but in the bitterness of the conflict rushed to close quarters and used the *gladius*. Livy, IX, 39, 6.

on a golden sheath-plaque of a fibula from the tomb of Pontesodo at Vulci (See Pl. 52, Fig. 3). Its date is about 650 B. C. The swords are held in such a position that it is clear that they are about to be used for thrusting.

The *Tomba dei Rilievi* at Cervetri, dating at the latest from the IV-III century, represents in all likelihood the period of transition from the triangular blade to that with parallel sides. About half of the specimens have triangular blades with just a suggestion of convexity, while the edges of the others are parallel for about two-thirds of their length, after which distance they taper rapidly.

We have seen that the Romans had a traditional sword which was not supplanted during the violent conflicts with the Gauls, nor discarded during the long Punic Wars, however much it may have been modified or developed. We may, all things considered, feel warranted in attributing to Etruria the introduction of the short 'cut-and-thrust' type. If a triangular blade cannot be proved for the sword that Servius brought into general use, it cannot be disproved. A further shred of evidence for the source of the *gladius* is the fact that the word *balteus*, 'baldric', is Etruscan[1].

SHIELD.

For protection, the Romans used square shields in their earliest clashes with the Tyrrheni, if we may trust the statement of Diodorus (XXIII, 2). After seeing the advantages of the different size and shape of their opponents' bucklers, they changed to the bronze *aspides*. The anonymous Vatican M. S., evidently dependent upon the same source as Diodorus, likewise records that the Tyrrheni regularly fought with circular bronze shields, and that the Romans adopted their style of armor[2]. The term 'Argolic' is, however, commonly applied to the word *aspis*[3], or to its Latin equivalent, *clipeus*. The writers, who use this adjective for this piece of armor, give its ultimate origin, either not knowing, or else disregarding the fact that the Etruscans were the medium through which it came to Rome[4].

To turn to the archaeological side, there have been unearthed in the necropolis upon

[1] CHAR. GRAMM., I, p. 77, Keil (quoting Varro).

[2] *Ined. Vat.*, *Hermes*, XXVII, 1892, p. 121.

[3] DION. HAL., I, 21; PLUT., *Rom.*, XXI.

[4] There is a bare possibility that it was settlers from Argos itself who introduced into Italy the type of shield that bears their name. Dionysius (I, 21; cf. IX, 21) informs us that Falerii and Fescennium were inhabited by the Romans even till his own day, and that in these cities there survived for a long period many of the institutions of the Greeks, among them the Argive shield. Cato (ap. Plin., *H. N.*, III, 51) credited the tradition of an Argive origin for Falerii, and several poets and mythographers connected its foundation with a certain Halesus or Haliscus, a son of Agamemnon (SERV., *ad Aen.*, VII, 695; OVID. *Fast.*, IV, 73; *Amor.*, III, 13, 31-32; SOLIN., 2, 7). It is interesting to note that there still exist two Faliscan inscriptions in which the word *clipearius* has become part of a proper name. See W. DEECKE, *Die Falisker*, 190-192.

the Esquiline remains of a discoidal bronze shield [1], the curvature of whose fragments indicates a diameter of more than a meter. In every respect it is like shields found in the Faliscan territory, at Corneto, at Cervetri, and in other localities in Etruria [2]. Its similarity renders it uncertain whether it was made in Latium in imitation of the foreign type, or whether it must be regarded as an importation [3].

Belonging to Roman shields were found several bronze devices [4] used for making a noise in much the same manner as a swinging knocker on a door. Their position on the shield is indicated by a *clipeus* discovered in the *Tomba del Guerriero* at Corneto. An illustration of it and of its pendent noise-producers is given on Pl. 51, Fig. 2. In addition to those found at Corneto, similar specimens or exact duplicates have been brought to light in the Faliscan territory and at Vetulonia [5].

The most natural explanation of these objects is that they were used to create a din in battle, and were an improvement upon a similar use of the spear. The Salii, whose equipment is a fossilization of the early patrician armor, were accustomed to beat their spear against their shield [6]. In like fashion, at the Battle of Cunaxa the Greeks caused confusion among the horses of their enemies by clashing together the same weapons [7].

The prototype of the boss, which the Roman could use so effectively on occasion, is likewise to be traced to Etruria. Early instances of it may still be seen in the Gregorian Museum on the shields from the Regulini-Galassi tomb at Cervetri. A sharp-pointed type is represented on a wall-painting at Tarquinii [8], while actual bronze remains of the device have been found in other places [9]. Mariani notes that the *umbones* of the Esquiline necropolis [10] present no special Latin characteristics [11].

Archaeological evidence substantiates, then, the literary tradition that the Romans borrowed the round shield from the Etruscans. The thunder-bolt device so conspicuous on the other type of shield, the *scutum*, came, presumably, from the land of the Thunder Calendar and of the nine thunder gods [12].

[1] *Mon. Ant.*, XV, p. 145.
[2] *Op. cit.*, p. 436.
[3] *Op. cit.*, p. 546.
[4] *Op. cit.*, p. 146.
[5] *Op. cit.*, p. 450.
[6] Dr. Cirilli (*Les Prêtres Danseurs de Rome*, pp. 146-147) dates the functions of the Salii back to the introduction of metallurgy from Crete into Italy, and looks upon the din of the arms as the essential ritual act intended to avert evil influences. The original significance must, however, have long since disappeared.
[7] Xen., *Anab.*, I, 8, 18. A number of other interesting instances of the clashing of weapons against the shield have been noted by W. Warde Fowler, *Virgil's "Gathering of the Clans"*, pp. 67-70.
[8] Byres, *Hypogaei of Tarquinia*, Pt. 3, Pl. 4.
[9] *Mon. Ant.*, IV, p. 396.
[10] *Bull. Com.*, 1896, p. 32.
[11] The ultimate source of the *umbo* is, of course, a more difficult problem. There have been found in the terremare small circular bronze discs, which have been variously taken as trappings for horses and as *umbones*. Pigorini (*Bull. di Paletnol. Ital.*, IX, 1883, pp. 85-96) discusses the arguments pro and con and decides in favor of the latter alternative. Ridgeway (*The Early Age of Greece*, I, pp. 479-480) shows "the universality of the circular shield with a boss in upper and western Europe", and proves to his own satisfaction that from this point it worked its way down into the Italian and Balkan peninsulas.
[12] The thunder-bolt in the talons of an eagle does, however, occur on heavy bar-money minted at Capua between 312 and 286 B.C.

ARMOR.

In the case of defensive equipment, one might on *a priori* reasoning assign its origin also to the Etruscans. As we have stated before, barbaric and savage courage despises protection to be worn on the body, and, as a result, the defense lags behind the offense. As the Romans began to resort to metal armor, they would naturally turn to their former teachers, the Etruscans, who were, in fact, their only neighbors sufficiently advanced to furnish them models. The Oscans, who long retained antiquated equipment[1], furnish a good example of the outfit of their neighbors, with the exception of the Samnites.

Even after the advent of Etruscan influence, the Romans were slow in resorting to the new style of defense. In this connection it is worth while to cite in its entirety a passage from Servius (*ad Aen.*, VII, 612): *Gabinus cinctus est toga sic in tergum reiecta, ut una eius lacinia a tergo revocata hominem cingat. Hoc autem vestimenti genere* veteres Latini, cum necdum arma haberent, praecinctis togis bellabant; *unde etiam milites in procinctu esse dicuntur, hoc rursus utebatur consul bella indicturus ideo quia, cum Gabii, Campaniae civitas, sacris operaretur, bellum subito evenit: tunc cives cincti togis suis ab aris ad bella profecti sunt*[2] *et adepti victoriam; unde hic ortus est mos*[3].

The old expression for an army ready for action is *classis procincta*, i. e., with togas girded up. With armor such a thing would have been impossible. As the toga itself was introduced from Etruria[4], the advent of armor would naturally be still later.

HELMET.

We are told by Isidore (*Orig.*, XVIII, 14) that the word *cassis* is Etruscan: *cassidam autem a Tuscis nominatam: illi enim galeam cassim nominant, credo a capite.* The object would presumably find its way into Latium with the word itself. The appearance of the helmet of bronze in the Servian organization was regarded as an innovation.

The ordinary Etruscan *cassis* was hemispherical, much like a *pilleus* in fact. The most interesting specimen extant is preserved in the British Museum[5]. As the inscription

[1] F. Weege, *Bewaffnung und Tracht der Osker*, *Jahrbuch des Instituts*, XXIV, 1909, pp. 141 ff.

[2] It is noteworthy that Servius does not ascribe to Gabii the origin of the *Gabinus cinctus*, but only its military use. A. S. Murray (*J. H. S.*, X, 1889, p. 252; see pl. VII) sees a toga in this form in a painting from Caere.

[3] Prof. Helbig (*Die Italiker in der Poebene*, p. 78, n. 3) discredits this passage on the ground that the Latins must have had *arma*, i. e., shields at this time. *Arma*, however, is not used here in contrast with *tela*, in which case it would certainly signify shields. It clearly means that they had no defensive armor to hinder throwing back the toga, that is, they had no metal *lorica*.

[4] Diod. Sic., V, 40, 1.

[5] Illustrated in Daremberg-Saglio, s. v. *Donarium*, p. 377.

shows it was offered as a gift at Olympia by Hiero in commemoration of the defeat of the Etruscan fleet in 474 B. C. Excellent instances of the same type are to be seen to-day carved in the *Tomba dei Rilievi*[1], though most of them are equipped with side-pieces and one with a neck-protection. There are represented on the Column of Trajan specimens so similar that there can hardly be any doubt of their pedigree (See Pl. 51, Fig. 1).

A hemispherical helmet with a suggestion of a rim at the bottom was discovered in one of the 'trench-graves' of the Esquiline (See Pl. 54, Fig. 3). This type, says, Pinza[2], is not peculiar to Latium since others similar and coeval with it have been unearthed in the Etruscan sepulchres of Vetulonia[3]. Pinza states of the Roman specimen that it is impossible to decide whether it is an importation or a servile local imitation.

After the Servian reforms we do not hear of any general use of the metal helmet until Camillus met the six-foot Gauls: " Knowing that the great strength of the barbarians lay in their swords, which they brought down savagely and clumsily, gashing the shoulders especially and the head, he had helmets forged for most of his men, entirely of iron and smooth on the outside, so that the swords would either slip off or be broken "[4].

There is nothing, however, necessarily inconsistent between this passage and the attribution of the helmet to the Servian army. The *cassis* never became overpopular and there must have been periods of disuse. Vegetius tells us that the custom of wearing the headdress of hide persisted almost till his own day, since the soldier wanted a headpiece of light weight. The metal helmet was uncomfortably heavy and we find representations of soldiers on the march carrying it on the cuirass[5].

In all probability it had fallen into partial disuse before the time of Camillus, and in order to confront an emergency, six-foot Gauls who towered over the Romans by head and shoulders, he revived the custom.

While the use of the ridge crest was rather common in Etruria and still other types among other enemies of Rome, the Roman army of early times does not seem to have employed it[6]. In pointing out differences in the Samnite equipment, Livy (IX, 40, 3) notes the presence of crested helmets, which were intended to convey an impression of height. Papirius Cursor (Livy, X, 39, 12) is represented as speaking of them with contempt: *non enim cristas vulnera facere.*

[1] Noël des Vergers, *L'Étrurie et les Étrusques*, III, Pls. 2 and 3.

[2] *Mon. Ant.*, XV, p. 545.

[3] Falchi, *Vetulonia e la sua necropoli antichissima*, Pl. IX, Fig. 23; Pl. XV, Fig. 17.

[4] Plut., *Cam.*, XL.

[5] Cichorius, *op. cit.*, *Taf.*, LXXII, LXXIV.

[6] There is, however, among some archaic figurines which Mariani thinks may have come from Rome, one with a ridge crest; *Bull. Com.*, 1896, p. 40; see p. 41, Fig. 6, for illustration.

CUIRASS.

The earliest attempt to protect the trunk is probably seen in the leather breast-piece. We have noted (p. 130) that as late as the Hannibalic War peoples of Central Italy presented themselves for service wearing *pectora* made of bearskin (Sil. Ital., VIII, 523). The first effort to duplicate such primitive equipment in metal, so far as we can trace it, is found in the *aeneum pectori tegumen* which Livy (I, 20,4), ascribes to the Salii. Helbig regards this as a bronze plaque like those found on the Esquiline[1]. The specimens are slightly oblong with their sides somewhat concave. The *Tomba del Guerriero* at Corneto has yielded a fine example of the same device[2], and still another comes from the famous Regulini-Galassi tomb at Cervetri[3]. On an Etruscan urn of later date, Helbig sees in a breast decoration an ornamental survival of the old style of pectoral[4]. These plaques were evidently attached to a jerkin of leather.

Complete protection for the trunk was finally provided by the cuirass, originally a doublet of leather, as we have seen, and later of metal. The introduction of the *lorica* was a natural and logical step after the advent of the *clipeus*. While the round shield was easier to handle, it did not protect as much of the body as did the *scutum*, and so the *lorica* was found to be a necessary supplement. Hence we find the *lorica* accompanying the *clipeus* in the first class of the Servian organization, while in the second class, where the *scutum* is used, it is evidently deemed superfluous: *arma imperata scutum pro clipeo et praeter loricam omnia eadem*[5].

The heavy-armed troops, who formed the bulwark of the Etruscan army, seem to have been well provided with protection for the trunk, even from the earliest times. One of the most ancient Etruscan monuments, a stone stele, shows a warrior wearing a well-made doublet of leather[6]. Later all forms of Greek corselets were imitated.

The bronze figure reproduced on Pl. 52, a very fine specimen of Etruscan art, provides a good example of a highly developed cuirass with bands over the shoulders and around the waist. At the latest, it dates from the early fifth century B.C.[7], but is more probably of the sixth. A comparison of this cuirass with the *lorica segmentata* of the soldiers of Trajan (See Pl. 51, Fig. 1) leaves no doubt of the relationship between the two types. Another field of art, painting, has bequeathed to us an excellent illustration of the Etruscan cuirass. It is that worn by Geryon, and it may still be seen in the

[1] HELBIG, *Sur les Attributs des Saliens*, p. 248.
[2] *Op. cit.*, p. 249, Fig. 25.
[3] PINZA, *Bull. Com.*, 1898, p. 146.
[4] *Op. cit.*, p. 251.
[5] LIVY, I, 43, 4.
[6] MONTELIUS, *Civilisation Primitive en Italie*, II, 1, Pl. 172, Fig. 2; see also DAREMBERG-SAGLIO, Fig. 1834, s. v. *coma*.
[7] WALTERS, *British Museum, Select Bronzes*, Pl. IX.

Grotta dell'Orco at Corneto[1]. Several corselets without the bands of metal, but modelled to imitate the musculation of the trunk, are preserved in the Gregorian Museum of the Vatican.

There are in the *Museo di Villa Giulia* two archaic architectural fictile decorations showing well-accoutred warriors. One figure[2] belonged to an acroterial group of the so-called temple of Mercury at Falerii; the other[3] formed part of an ornament for the beam-ends of the temple of Satricum in Latium. The date of the terracottas is the last part of the sixth century, or early fifth. It has been suggested that these cuirasses may be of leather[4], but the presence of well-defined shoulder-guards inclines me to think that they are supposed to be of metal. However this may be, the evidence of the bronze figures is sufficient proof that the Etruscan cuirass served as a model for the Romans.

GREAVES.

Of all the pieces of metal armor, the greave was the slowest in making its appearance in Etruria, and it was probably correspondingly late in finding its way to Rome. I have not been able to find any literary evidence of Roman indebtedness to Etruria for the *ocrea*, or for the *lorica*, unless *phalerae*, as used by Florus (I, 5), is sufficiently broad to include them. The rich Etruscan warrior-tombs of the seventh century (or late eighth), such as the *Tomba del Guerriero* at Corneto and the *Tomba del Duce* at Vetulonia have not yielded examples of it[5]. One sees on a sixth century black-figured vase[6] at Corneto, the fabric of which indicates local manufacture, a rank of seven heavy-armed warriors, but all are greaveless (See Pl. 51, Fig. 3).

Karo states that the most ancient bronze greaves found in Etruria date from the end of the fifth century, or from the fourth, and that they probably came from armories in Magna Graecia[7]. In fact he regards the *ocrea* as a Greek invention.

In apparent contradiction to Karo is the evidence of the well-greaved terracotta warriors just referred to, since their date would place them a full century before the bronze greaves from the tombs. The legs of the figures in question are entirely encased in their protection as far as the knees. The ancient greave was made of flexible metal

[1] Illustrated in DENNIS, *op. cit.*, p. 351.

[2] Illustrated by MRS. STRONG, *J. R. S.*, IV, 1914, p. 173; see also HELBIG, *Führer*[3], II, p. 336.

[3] Illustrated *op. cit.*, p. 170; see HELBIG, *op. cit.*, p. 352.

[4] G. E. RIZZO, *Bull. Com.*, 1911, p. 33.

[5] KARO, DAREMBERG-SAGLIO, s. v. *ocrea*, p. 147.

[6] Published by HELBIG, *Bull. dell'Inst.*, 1878, p. 178.

[7] The most artistic greaves with which the writer is familiar were found at Ruvo. They belong to the early fifth century, or perhaps to the sixth. " Each one is decorated with the figure of a Gorgon, partly embossed and partly engraved, who is represented as running, in the conventional archaic manner with face to the front, knees bent at a right angle, and hands downwards ". H. B. WALTERS, *British Museum, Select Bronzes*, Pl. 5.

and was 'sprung on', a feat which would have been impossible with the type of greave under discussion. Rizzo believes that they were not supposed to represent bronze, but for a different reason. He holds that they " must be of leather, to judge from the color of the painting "[1].

This evidence makes one skeptical about the inclusion of the bronze greave in the Servian army. It would have been the most striking of the innovations. The first three classes were heavily armed, yet according to Livy's account the metal greave did not reach the third class[2]. The *ocrea* does not seem to have been popular in the Roman army at any time. It is not represented, as Karo points out[3], on the Trajan or Antonine Columns, nor is it mentioned among the arms of which the *Notitia Dignitatum* enumerates the imperial factories. All things considered, it seems clear that the regal period is too early for the general introduction of the metal greave.

CINCTURA.

The least common piece of defensive equipment is the *cinctura*, a kind of waistband. Pinza (*Mon. Ant.*, XV, p. 257) illustrates a specimen found in Rome, and states (*op. cit.*, p. 440) that others almost or entirely similar have been discovered at Narce as well as in other Faliscan localities, and at Corneto (See Pl. 52, Fig. 2). Only two examples, both fragmentary, have come to light in Rome[4]. They probably belong to a period when anything " made in Etruria " exercised its spell south of the Tiber. Whatever importance the *cinctura* had in Roman accoutrements must have been quickly lost[5]. Its sporadic use probably represents an experimental period which resulted in the elimination of what was found superfluous.

METALLURGY.

Important as the new weapons were, more important still was the dawning realization of further possibilities latent in metal. When the soldiers of Rome began to tip their spears with bronze and to make shields of the same material, a long stride was made toward the grim metal-armed and metal-protected legionary of Caesar's day. Clashes

[1] *Bull. Com.*, 1911, p. 33.

[2] LIVY, I, 43, 5.

[3] DAREMBERG-SAGLIO, s. v. *ocrea*, p. 149.

[4] PIGORINI, *Bull. di Paletnol. Ital.*, 1908, p. 103 ff. Illustrations are given of the examples from Rome as well as of others.

[5] Doubt has been expressed as to whether the *cinctura* is really a military accoutrement, but that warriors used it has been shown by HELBIG, *Sur les Attributs des Saliens*, 255-259. It finds a parallel in the *μίτρα* of Homeric equipment. It would seem that the *cinctura* is an evolution from a kind of stomach-band or sash, such as one sees to-day in Greece, or less frequently in Italy. The fact that it was worn by women, too, points to this conclusion.

with their northern neighbors taught the Romans the superiority of metal over wood as clearly as the encounter of the Merrimac and the Constitution demonstrated the same truth to the modern world centuries later.

We have seen that Propertius speaks of days when the accoutrements of the warrior were not resplendent with bronze. Hence we are not surprised that in the Servian organization Livy (I, 43, 2) regards it as a noteworthy innovation that the *galea, clipeum, ocreae*[1] and *lorica* were *all* of bronze. The lower classes still retained the cruder weapons of their fathers. Vetulonia, according to Silius Italicus (VIII, 488), was the first Etruscan city " to set battles ablaze with bronze ".

The meagreness of Rome's early knowledge of metallurgy and the non-existence of a readily available and bountiful source of ore kept her in economic bondage to Etruria for centuries. Her utter dependence is shown by the terms of a treaty exacted in 507 B. C. by Porsenna, who, according to one and probably the truer version of the story, stipulated that the Romans should not use iron except for agricultural purposes[2], a situation closely paralleled by the policy of the Philistines to suffer no smith in Israel " Lest the Hebrews make them swords or spears "[3].

How firmly established the metal industry was north of the Tiber, we may judge from a passage of Livy (XXVIII, 45), which indicates that as late as Hannibalic days Etruria was the arsenal of Rome. For the mammoth struggle with Carthage, Populonia promised iron, Arretium 30,000 shields, the same number of helmets, of *pila, gaesa,* and *hastae* 50,000, all told, and in addition miscellaneous appurtenances of metal for forty ships[4].

Etruria, with the supply of Elba at her command, was fabulously rich in metals. It is hardly to be wondered at that the story gained currency in antiquity that while land in other places, once worked, was exhausted, on the island of Elba the beds of ore were re-mined in the same places from which the deposits had already been extracted[5].

The habit of looking to Etruria for metal, in vogue from the bronze age, is in itself an indication of the provenance of the military equipment of early Rome, since the lower civilization naturally depends upon the higher. In the case of articles of personal or domestic use, as well as in the case of weapons, Pinza frequently remarks[6] that objects found in Rome and Latium had no distinctive Latin character, and that it is therefore difficult or impossible to decide whether they are servile local imitations or importations. Yet it

[1] The *ocreae*, as just pointed out, were probably introduced later.

[2] PLINY, *H. N.*, XXXIV, 139. This is probably the more trustworthy account, since the Romans would naturally keep in the background any details discreditable to themselves.

[3] I *Sam.*, XIII, 19-23.

[4] The coins of Populonia with the head of Vulcan on the obverse, and hammer and tongs on the reverse are wonderfully appropriate.

[5] STRABO, V, 224; SERV., *ad Aen.*, X, 174.

[6] *Mon. Ant.*, XV.

was this knowledge of the use of metals, thus acquired, that enabled Rome to give vent to her latent military genius, providing her at first with an advantage over her more sluggish neighbors to the east and south, and finally rendering it possible for the pupil to turn her arms successfully against her teacher.

ORGANIZATION.

We have seen that the material equipment of the early Romans was Etruscan. One would naturally infer that the constitution and organization of the army would likewise be Etruscan. It is our present task to find by a detailed examination how far such an inference is warranted.

Originally, all the able-bodied men constituted the army. The people were the soldiery. With the progress of agriculture and the establishment of more settled methods of living, it became necessary, possibly because of some reluctance to go to war, to summon men for military duty (*classis*, 'army' ⟨ *calare*, 'to call')[1]. Perhaps the rulers were faced with a situation which the leaders of the Suebi feared, but managed to avert. Though this tribe was far and away the most warlike of the Germans, its members were granted tenure of land for only one year, owing to the fear that they should become rooted to the soil, and thus lose their martial character[2].

The word *classis* was soon supplanted. A higher ideal of an army as an *exercitus*, a body of trained men, arose in all probability through seeing, not merely the advisability, but also the vital necessity of keeping pace with their northern neighbors. Long before the time of Vegetius, there had dawned upon the Romans an idea that has since become a platitude: *Etenim in certamine bellorum exercitata paucitas ad victoriam promptior est, rudis et indocta multitudo exposita semper ad caedem*[3].

The early Roman ideal of a general was a *praetor* or *dux*, a man with sufficient courage to advance at the head of his command (cf. στρατηγός); later it was an *imperator*, a man capable of giving orders. His notion of a sovereign was not that of a *König*, a man with mere physical powers, but a *rex*, a man capable of controlling, of guiding, of directing.

The word for soldier, *miles*, which meant originally one of those who had assembled or gathered together[4], and which with other words is a proof of the non-existence of a regular military terminology, had become so fossilized that it did not change. The

[1] The same word is still used in Italy. The soldier is called out according to his *classe*.

[2] CAESAR, *B. G.*, IV, 1; *cf.* VI, 22.

[3] VEG., I, 1 fine.

[4] Cf. Greek cognates ὁ - *μιλία*, 'Umgang, Verkehr', ὅ - *μιλος* 'Haufe Versammlung', etc., as given by Walde, s. v. *miles*.

Roman conception of a man is shown by the fact that the word for manhood and for courage was the same, *virtus*, but he was brought to realize that the lesson he must learn was *disciplina* (⟨ *discere*).

The primitive Roman carried his weapons as naturally as he wore his clothes, but what he lacked was organization. A great step forward was made by the introduction of the *centuria*. There can be no doubt that the class distinctions of the Servian army were made on the basis of land and not, as Livy represents, according to wealth [1]. We know from Festus (53 M.) that the word *centuria* means in terms of land 200 *iugera*, in military parlance 100 men. This very discrepancy, which one ancient writer explains to his own satisfaction by stating that the *iugera* were apportioned in pairs [2], is an indication of a foreign unit of land measure.

The surveyor's art could have come from but one source. There is a tradition about the early existence, (if not the beginning), of the science of measurements in Etruria: *Cum autem Iuppiter terram Etruriae sibi vindicavit, constituit iussitque metiri campos signarique agros, etc.* [3].

Another clue to an Etruscan standard is given by the fact that the *iugerum* equals two *acnuae* (Varro, *Res Rus.*, I, 10), a word generally regarded as Etruscan. Each soldier thus received four *acnuae*. It would seem, then, that this amount represents an Etruscan unit of measure, and that the word for it, instead of being borrowed, was equated with *bina iugera*. Hence the century of 200 *iugera* is the equivalent of a hundred Etruscan units.

The two uses of the word *centuria* indicate an original connection between the assigning of the land and the division of the people. The common source from which the agrarian and military *centuria* bifurcated was the ritual. The Etruscan surveyor's art, with its fastidious rules for orientation and its complex system of founding cities, is manifestly ritualistic; not less so are the lustral ceremonies and the sacrifices for the army, conducted as they were by a leader at once king and priest. The method of organization was, then, as Livy (I, 42, 5) informs us, suitable either for war or peace, an improvement for which the Romans had to thank Etruria.

LEGION.

The pages of Livy and Dionysius are silent as to the beginnings of the legion, although each, apparently, assumes its existence from the infancy of Rome. Varro (*L. L.*, 89)

[1] " Der Wert des Grundbesitzes wurde vielleicht von dem Censor App. Claudius in Geldsummen umgesetzt ". — Weissenborn commenting on Livy, I, 43. " The money ratings of 312 are not recorded; we know those only of the time following 269 ". Botsford, *The Roman Assemblies*, p. 86.

[2] *Centuriis . . . vocabulum datum est ex eo: cum antiqui* [*Romanorum*] *agrum ex hoste captum victori populo per bina iugera partiti sunt, centenis hominibus ducentena iugera dederunt, et ex hoc facto centuria iuste appellata est.* — Sic. Flacc., *Grom. Vet.*, p. 153.

[3] *Grom.*, p. 350.

and Plutarch (*Rom.*, 13) both ascribe its institution to Romulus. Yet the legion familiar to these authors was but germinating in the days to which they assign its origin. *Legio, cohors,* and *manipulus* were not yet tactical units. The *legio* was the gathering of the clans for military purposes. The word *cohors* did not yet connote a tenth part of the legion; it signifies primarily an enclosure, and was impressed into the military vocabulary to indicate, in all probability, a formation (cf. the πλαίσιον of the Greeks and the 'square' of the British). The *manipulus* was not a flexible tactical unit until mountain warfare necessitated greater freedom of action; it was at first a group of men following the ensign of a leader. A technical military terminology was still a thing of the future.

A natural *terminus a quo* for the beginnings of the complex Roman legion is to be found in the early conflicts of the Romans, fighting in loose formation, perhaps in skirmish fashion, against the close ranks of the Etruscans. Diodorus (XXIII, 2) states that in the first engagements of the Romans and Tyrrheni, the latter fought in phalanx formation (φαλαγγομαχοῦντες). He used the word to contrast the arrangement of the Romans. Again, we have the authority of Athenaeus (VI, p. 273 f.) that the rank formation (σταδία μάχη) was adopted from the Tyrrheni who attacked in a phalanx. Both writers depend, in all probability, upon the author of the *Ineditum Vaticanum*, whose words are worth quoting: Τυρρηνοὶ (cod. τυρηνοὶ) γὰρ ἡμῖν ἐπολέμουν χαλκάσπιδες καὶ φαλαγγηδόν, οὐ κατὰ σπείρας μαχόμενοι· καὶ ἡμεῖς μεθοπλισθέντες καὶ τὸν ἐκείνων ὁπλισμὸν μεταλαβόντες παρεταττόμεθα αὐτοῖς· καὶ τοὺς ἐκ πλείστου ἐθάδας τῶν ἐν φάλαγγι ἀγώνων οὕτως ἀγωνιζόμενοι ἐνικῶμεν[1].

On the Corneto vase previously referred to (See p. 151), there are represented in rank formation seven warriors, armed with Argive shield and crested helmet, marching grimly forward, shoulder to shoulder, to the notes of the *cornu*. An amusing touch is added to the scene by the action of the youth, who is, perhaps, the nearest ancient counterpart of a drummer-boy that we have, in turning round to observe the results of his efforts.

The tradition of the military organization of the Etruscans persisted long after their obliteration as a nation, as is shown by Horace's allusion to the ancestors of Maecenas lording it over Etruscan legions[2].

The new style of fighting that the Romans saw and adopted was modelled ultimately on that of Sparta. "The Spartans, perhaps as early as the eighth century B. C., invented the phalanx, – a line of warriors with strong defensive armor and long spears, – which moved as a unit to the sound of music. The new system commended itself to all intelligent Greeks, and soon found its way to their colonies in Italy and in Sicily. Thence, one of the Tarquins, whom we shall call Servius, adopted it for his own state"[3].

[1] HERMES, XXVII, 1892, p. 121.

[2] *Sat.*, I, 6, 1-4. The poet uses the word *legiones* loosely.

[3] BOTSFORD, *A History of Rome*, p. 33.

Livy does, in fact, speak of the formations of a little later date as *phalanges similes Macedonicis*[1], but the more general adjective *Graecis* would have been more appropriate.

By the end of the third century, each legionary had ample room on either side of him, yet in the old phalanx soldiers fought strictly shoulder to shoulder. " Why ", pertinently asks Vegetius (I, 20), " was the infantry called a wall unless the legions in dense array gleamed even with helmets and coats of mail in addition to their shields ? "

Servius[2] states that the adjective in the expression *pilata agmina* means ' armed with pila ', but, fortunately, volunteers some additional illuminating comments. Others, he explains, take it in the sense of *densa, spissa*; Sempronius Asellius uses *pilatim* in contradistinction to *passim;* in *pilatim exercitum duxi,* the adverb is interpreted by *strictim et dense.* The meaning of *pilatae legiones* in the passage just quoted from Vegetius is unmistakable. Walde derives the word from *pilo, -āre,* ' zusammendrücken ', and postulates a noun *pīlus,* ' Manipel, Haufe '. The *pilani* were, therefore, not spearmen, but ' massmen ', men in compact formation[3], and the ancient battle-line that the Romans adopted under Etruscan influence consisted of strictly serried ranks.

HOME-DEFENSE.

After noting the ingenuity and resourcefulness of the Etruscans, one is not surprised to find a sharp line of demarcation drawn between the offense and the defense. We note a very modern idea in the organization by the Etruscan, Servius, of a *Landwehr.* According to Livy, forty centuries of the older troops, really first-line men, were detailed to guard the nation while the same number of young men similarly equipped fought abroad[4]. The new institution cannot, however, have existed in the form and numbers in which Livy describes it, and in all probability it was later in origin. " A military century, as the name indicates, must have contained a hundred men. But in any static population there are three times as many men between seventeen and forty-six as between forty-six and sixty – in Rome there were three times as many juniors as seniors; and as the number of junior and senior centuries was equal, the latter could have contained only about thirty-three each, on the supposition that the whole male population between seventeen and forty-six years was organized in centuries "[5].

Furthermore " the manning of the walls did not necessarily require a division into companies or an equipment like that for field service ". As a result of such considerations, Botsford expresses his conviction that the senior centuries did not belong to the original Servian system[6].

[1] Livy, VIII, 8, 3.
[2] *Ad Aen.*, XII, 121-122.
[3] See Reinach, *Rev. Archéol.*, 4me Série, IX, 1907, p. 243-252.
[4] Livy, I, 43, 2.
[5] Botsford, *The Roman Assemblies*, p. 81.
[6] *Op. cit.*, p. 82.

MUSICAL INSTRUMENTS.

As the Roman army became more complex in its organization, the introduction of devices like the trumpet and standard was rendered inevitable in order to convey orders more readily to the ear and eye of the soldier. Livy (I, 43, 7) notes the enrollment of *cornicines* and *tubicines* in the fifth class of the Servian organization. Etruscan influence is nowhere more strongly attested than in the case of the *tuba*, the instrument of the echoing *taratantara*[1]. According to one tradition, it was coëxtensive with the Tyrrheni themselves, being invented by their eponymous hero, Tyrrhenus[2]. We find its invention ascribed also to Maleus, the Etruscan prince of Regisvilla[3], and still other passages assign it to Vetulonia[4] and Pisa[5]. The Greek tragedians, likewise, apply to it the adjective Tuscan[6]. The general belief was that it originated in Etruria[7], although it may have come in the first place from the Lydians.

One naturally looks to Etruria for the source of the *cornu* also; in fact Athenaeus (IV, 82, 184) does make the definite statement that the κέρατα and the trumpets are inventions of the Etruscans. Urns of Volaterrae show *cornicines* attending the victor[8]. *Cornua* far more pretentious and similar to those on the Column of Trajan (See Pl. 51, Fig. 1) are to be seen in the *Tomba dei Rilievi*[9], while Tarquinii affords in frescoes good examples of them as well as of the *lituus*[10]. The very name of the latter instrument, shared as it is with the wand of the augurs, seems sufficient indication of the source of the object.

Strabo (V, 2, 2) informs us that the music employed by the Romans in their public ceremonies was introduced from Tarquinii, and similar generalizations are made elsewhere[11]. The Etruscans fully appreciated the possibilities of these instruments in aiding organization. We have already noted (p. 151) the vase from Corneto (See Pl. 51, Fig. 3) on which seven heavy-armed warriors are marching in rank formation to the sound of the *cornu*. We are told that the Etruscans found the *salpinx* extremely useful for military purposes, and that they used it in working out infantry tactics[12]. These innovations in the Roman army constituted, therefore, a noteworthy gain.

[1] ENNIUS *ap. Prisc.*, p. 450 K.

[2] PAUS., II, 21; SIL. ITAL., V, 12; cf. SERV., *ad Aen.*, I, 67.

[3] LACTANT. ad STATIUS, *Theb.*, IV, 224.

[4] SIL. ITAL., VIII, 488.

[5] PLIN., *H. N.*, VII, 201.

[6] AESCH., *Eum.*, 570; SOPHOCLES, *Ajax*, 17.

[7] The list of references might bs easily extended.

[8] GORI, *Monumenta Etrusca Musei Guarnacci*, Pl. XXVIII; MICALI, *L'Italia avanti il Dominio dei Romani*, 1810, Pls. 34 and 35. A Roman sarcophagus of the third century A. D., now in the Terme Museum, provides good illustrations of the *cornu* and of the *tuba*. E. STRONG, *Roman Sculpture*, p. 321.

[9] NOËL DES VERGERS, *op. cit.*, III, Pl. 2.

[10] *Mon. dell'Inst., Suppl.*, 1891, Pls. 4 and 5; also Vol. VIII, Pl. 36.

[11] ATHEN., IV, 25; CLEM. ALEX., *Paedag.*, II, II, 4.

[12] DIOD. SIC., V, 40, 1.

STANDARDS.

Early complements of the *tuba* were the *manipuli*, 'handfuls' of *faenum*, arranged in different shapes, as Isidore informs us (*Orig.*, XXII, 3), in order that each soldier might more readily follow his leader. Substantially the same explanation is made by three other writers[1]. Domaszewski[2], however, sees in these passages merely an attempt to establish the etymology of the word *manipulus;* yet it seems better to recognize their existence, together with Renel[3], who identifies them with the *verbenae* or *sagmina* used by the *fetiales*, and concludes that, be they bunches of grass, or branches tied together, or wreaths of leaves, they represented for the soldier the soil as well as the gods of his native land.

These *manipuli* were probably supplanted rather early since we learn from Pliny (*H. N.*, X, 16) that the eagle, wolf, minotaur, horse and boar were well-recognized *signa* before the time of Marius[4]. With him begins the primacy of the eagle as the legionary standard, although it had long since been used as an emblem of authority.

In token of submission to Tarquinius Priscus, twelve subjugated cities of Etruria are said to have brought, together with other things to be found among the Lydians and Persians, a sceptre surmounted by an eagle[5]. We know from other sources that the Etruscans were familiar with the symbolic significance of the eagle, since on vases of Greek workmanship or inspiration found in Etruria, Zeus is represented with an eagle-crowned staff. In addition marching-scenes often show this bird flying over the heads of soldiers. We may feel certain, then, that the Etruscans had animal-standards. However, the evidence of a terracotta slab found at Cervetri and dating about 600 B. C. is conclusive (See Pl. 52, Fig. 1). One of the figures is depicted carrying over his shoulder

[1] Ovid, *Fasti*, III, 115 ff.; Serv., *ad Aen.*, XI, 870; Plut., *Rom.*, 8. Cf. also Isid., *Orig.*, IX, 3; XVIII, 3.

[2] *Die Fahnen im roemischen Heere*, p. 13.

[3] Renel, *Cultes Militaires de Rome - Les Enseignes*, pp. 253-254.

[4] The idea behind the animal-standard is excellently illustrated by a strategem recounted by Diodorus Siculus (XX, 11). During a critical moment of his African campaign against Carthage, Agathocles released some owls which he had provided for an emergency. Flying through the ranks and perching on shields and helmets, they inspired the troops with courage, since each man thought the event a good omen, as the bird was sacred to Athena.

" Evidently to the men of that period the goddess was actually embodied in her owl ". E. M. Douglas, *J. H. S.*, XXXII, 1912, p. 176.

Diodorus (I, 86, 4-5) gives the following as one of several reasons for the reverence paid to animals in Egypt: " Of old the inhabitants of Egypt, worsted by their neighbors in a number of engagements because of disorder in the army, hit upon the idea of carrying a signal in the ranks. They say, then, that they prepared images of the animals they now honor, and affixed them to spears, that leaders carried them and that each man knew to what division he belonged. The ensuing good order contributed in large measure to the victory, and the reason for the safety (of the victors) seemed to be the animals. Accordingly the men, wishing to give thanks to them, established the custom of not killing the animals at that time represented, but reverencing them, conferred upon them the attention and honor of which we have spoken ".

[5] Dion. Hal., III, 61. For the eagle in Persia, see Xen., *Anab.*, I, 10; in Assyria, Herod., I, 195.

a staff surmounted by a bull. It is a fair assumption, then, that the Romans derived their idea of the animal-standard from Etruria[1].

The importance of these *signa* can hardly be overestimated since they were the pivot about which the manoeuvres of the legion were evolved, as a wealth of technical expressions testifies[2]. Standard and horn played no small part in the development of the Roman army.

CAVALRY.

Cicero believed that L. Tarquinius was responsible for the organization of the cavalry as it existed even till his own day[3]. It is certain, however, that in the regal period cavalry in the technical sense of the word did not exist, and that *equites* in the earlier sense, i. e., mounted horsemen, can not have been very numerous in Latium at the time Tarquinius is supposed to have lived[4].

As stated before, Helbig has shown that the equipment of the Salii was modelled on that actually in use in war. " If at the epoch of the institution of the *sodalitates Saliorum*, upon whom fell the sacerdotal representation of the patricians capable of bearing arms, a troop of one or the other of these types had existed, certainly the horse, which we to-day call the saddle-horse, would have figured in some fashion in the rites of the Salii. But that was not the case. The dances which played the principal rôle in that rite were determined exclusively by the evolutions of the infantrymen "[5]. The Salii were 'Leapers', and the members of the Palatine guild were ministers of Mars Gradivus, the god who launched himself into battle with a grand stride[6].

We read in Livy of remarkable, almost superhuman successes of the cavalry. It would seem strange that a nation, which, in periods better recorded, was never markedly

[1] The introduction of the bull-standard cannot, however, be attributed to the Etruscans. It made its advent too late. In some instances it indicates the legions of Caesar, in which case the bull is the zodiacal sign, corresponding to the month of Venus, the divine protectress of the Julii. Later on it effected its entrance independently from the Pannonian allies, who practised zoölatry. See RENEL, *op. cit.*, pp. 214-216.

[2] *Signa tollere, movere, ferre, efferre* or *proferre, constituere, inferre, conferre, convertere, referre, transferre, promovere, retro recipere, ad laevam ferre, obicere, expedire.* DOMASZEWSKI, *op. cit.*, pp. 5-6.

[3] *Deinde equitatum ad hunc morem constituit, qui usque adhuc est retentus. De Re Pub.*, II, 20, 36.

[4] A fine bronze bit was included among the treasures of the seventh (or perhaps eighth) century *Tomba del Guerriero* at Corneto (*Mon. dell'Inst.*, X, 1874, Pl. X^b, No. 6). I have not, however, been able to find any mention of one from the pre-historic cemeteries of Rome.

[5] HELBIG, *Sur les Attributs des Saliens*, 265-266.

[6] In the archaic Umbrian ritual the epithet *Grabovius*, corresponding to *Gradivus*, was applied to Jupiter, Vofionus and Mars; at Rome there was a similar triad consisting of Jupiter, Quirinus and Mars, but the adjective *Gradivus* was restricted to the god of war. See G. WISSOWA, *Religion und Kultus der Römer*, 2te Aufl., p. 23, and note 2.

SERVIUS (*ad Aen.*, I, 292) makes some interesting comments on the martial character of Gradivus: *Mars enim cum saevit Gradivus dicitur, cum tranquillus est Quirinus. Denique in urbe duo eius templa sunt: unum Quirini intra urbem, quasi custodis et tranquilli, aliud in Appia via extra urbem prope portam, quasi bellatoris, id est Gradivi.*

successful in this branch of the service, and which finally relegated it in large measure to the allies, should so lose its efficiency.

Helbig has, however, resolved these difficulties in a short monograph[1]. He shows that the *equites* were originally merely heavy-armed foot-soldiers held in reserve; that they were supplied with mounts only to facilitate their movement to critical points; and that they did not begin an engagement, or decide the issue of battle by the weight and impact of their chargers. The wonderful accounts of cavalry exploits in Livy[2] are late fictions, dating from a time when the memory of the introduction of cavalry had vanished. If the story does retain an iota of truth in stating that the *equites* dismounted, the action is misinterpreted, and is regarded as a proof of unusual heroism. Furthermore, the *eques* was accompanied by an *armiger*, or squire, who was also mounted, a situation paralleled exactly in the early history of Greek cavalry[3].

Granius Licinianus writes (*ed.* Bonnens., pp. 4-5): " I shall not fail to mention the horsemen, which Tarquinius doubled so that the *priores equites* led into battle two horses apiece ". The reference is to Tarquinius Priscus. The expression *equites priores* enables one to postulate, as Helbig points out, *equites posteriores*, i. e., horsemen with only a single mount, which was used in an emergency for the *eques prior*, or his *armiger*, or for both. The second type of horseman finds an analogy, likewise, in Greece.

Festus (p. 221 M.) was so utterly ignorant of ancient cavalry practice that he vouchsafes the ridiculous explanation that the Roman used two horses in battle so that, when one mount perspired too freely, he might change to a dry one.

Helbig, as confirmation for his conclusions, calls attention to some slabs of friezes in terracotta manufactured in Southern Etruria and of an archaic style indicating the sixth century B. C.[4]. Such friezes have been found both in Etruria and Latium, including Rome itself. Many of them represent warriors on horseback accompanied by squires similarly mounted (See plaque from Cervetri Pl. 54, Fig. 4). The shields are those of infantrymen, and were incapable of being used by horsemen, as Prof. Helbig has shown elsewhere[5]. They are, then, not cavalrymen, but mounted soldiers, who, like the *equites priores* of the time of Tarquin, took the field with two horses, one ridden by the *eques*, the other by the squire.

There is in the Museo Barracco a fifth-century *Cippo Etrusco* from the neighborhood of Chiusi, which shows such warriors advancing to battle with their attendants behind[6]. The Gregorian Museum contains two small bronze figures of horsemen in full panoply;

[1] *Contribution à l'Histoire de l'Equitatus Romain, Comptes Rendus de l'Acad. d. Inscr.*, 1904, pp. 190-201.

[2] Livy, II, 20 (cf. Dion. Hal., VI, 12), III, 62; IV, 38-39; VII, 7-8; IX, 39.

[3] W. Helbig, *Les ΙΠΠΕΙΣ Athéniens, Mém. de l'Acad. d. Inscr.*, XXXVII, 1902, pp. 157 ff.

[4] Pellegrini, in Milani, *Studi e Materiali*, I, 1899, pp. 87 ff.; also *Mon. dell'Inst., Supplemento*, 1891, Pl. I.

[5] *Les ΙΠΠΕΙΣ Athéniens*, p. 170.

[6] *Catalogo del Museo di Scultura Antica*, No. 202.

they wear greaves, coats of mail and helmets, the latter equipped even with ear-pieces and crests, in short the accoutrements of heavily-armed *pedites*.

The Latin word for this early type of horsemen was *celeres*, 'quickmen', i. e., they were emergency foot-soldiers[1]. Caeso explains that before the Samnite wars the strength of the Romans consisted wholly or for the most part of infantry, but that at the time when they adopted the shield and spear of the Samnites, they were forced to resort to cavalry[2].

The institution of cavalry came to Rome from Magna Graecia, and it may have taken the same route as did the cult of Castor and Pollux. The twin-brethren inaugurated their Italian career in Tarentum, a Lacedemonian settlement, famous, as was its mother-city, for its cavalry. Later they gradually worked their way northward, penetrating Etruria before entering Latium and Rome. The story of these horsemen early made a vivid appeal to the imagination of the Etruscans, as is shown by the frequent representation of the theme on urns, vases and sarcophagi. If the word *Tusculum* implies connection with Etruria[3], Festus (p. 354 M) to the contrary, the account of the introduction from Tusculum into Rome of the cult of Castor and Pollux may be a more or less veiled reminiscence of Etruscan influence on the organization of Roman cavalry[4].

Pais regards the ceremony of the *transvectio equitum*, which was connected with the cult of Castor and Pollux, and which is said to have been instituted in 304 B. C., as sufficient evidence for the Greek origin of the cavalry system[5].

In short, the accounts of cavalry in the regal period are anachronisms, yet Servius probably brought with him to Rome a realization of the advantages of mounted infantrymen. This, and the heavy equipment such as one sees on sixth century friezes, constituted the Etruscan contribution to the so-called cavalry of the regal period. It seems probable that the Etruscans were, likewise, the intermediaries for cavalry as a distinct branch of the service.

CHARIOT.

As the *equites* entered battle as mounted hoplites, so the king of the sixth century took the field as a παραβάτης[6]. A slab of frieze found at Toscanella represents, according

[1] An interesting analogy may be quoted in the case of the Iberians. After noting that the weapons of the cavalry do not appear to have differed materially from those of the foot-soldier, Sandars (*The Weapons of the Iberians*, p. 26) remarks: "It is probable, to judge by his equipment, that the cavalryman also fought, and perhaps principally, on foot, as the antennae sword would certainly not have proved to be an efficient weapon of attack in the case of a soldier fighting from horseback".

[2] *Ined. Vat.*, *Hermes*, XXVII, 1892, p. 121.

[3] SCHULZE, *Zur Geschichte Lateinischer Eigennamen*, p. 435, makes *Tusculus* a diminutive of *Tuscus*, and states that the town name *Tusculum* is nothing more than the corresponding neuter.

[4] "Tarente, colonie lacédémonienne, est dans la Grande-Grèce, comme Sparte l'était en Grèce, le centre de leur culte, qui de là, peu à peu, va remonter vers le nord. Mais avant de pénétrer dans le Latium et à Rome, il était déjà installé en Étrurie". DAREMBERG-SAGLIO, *s. v.*, *Dioscuri*, p. 259.

[5] *Ancient Italy* (trans. of C. D. Curtis), p. 322, n. 3.

[6] My discussion of the chariot is based almost

to Helbig, the departure of an Etruscan army (See Pl. 53, Fig. 6). The first figure with a *lituus* is that of a priest, next come two heavy-armed soldiers, followed by a chariot. The last figure is that of a king, likewise heavily armed, stepping into the chariot to take his place beside the driver. The opinion that Etruscan rulers went to war as παραβάται is further substantiated by the finding of remains of chariots in tombs of the seventh and sixth centuries.

In Etruria, as well as in Rome, kings exercised the *imperium domi militiaeque*. Now the insignia of Rome are regularly ascribed to Etruria, and of them the *sella curulis* is one[1]. The *sella curulis* of the consuls is simply the descendant of the seat-equipped chariot in which the king performed his civic functions, and there is no reason to doubt that he entered battle in a seatless car, as did his Etruscan brother, and that it was the emblem of his military authority. The *currus* became the sign of *imperium* because the king made use of it when he took the field at the head of his army. At some subsequent time, when he rode about in the exercise of his civic duties, it was supplied with a seat.

There is in the Conservatori Museum a sixth-century terracotta frieze which was discovered in a fragmentary condition on the Esquiline in 1870[2]. It represents a procession of two chariots. The form of the cars is recognized as Etruscan[3], with the Greek elements that one looks for in Etruscan chariots, but "the vivacious gallop of the Greek advance to battle has become a quiet walk, typical rather of a triumphal procession"[4]. There can be no doubt as to the source from which the lack of a biga was supplied[5]. The introduction of the quadriga is ascribed to the elder Tarquin[6].

CASTRA.

There occurs in Propertius (IV, 1, 29) a line which has proved difficult for the commentators: *Prima galeritus posuit praetoria Lycmon,* 'Lycmon wore but a wolf-skin helmet when he laid out the first general's quarters'. Lycmon is probably the Lucumo who came to the aid of Romulus. Propertius seems to indicate that he was the first to introduce the formal camp with its special section for the general, but there is no trace

in toto on HELBIG, *Le Currus du Roi Romain, Mélanges Perrot,* pp. 167-172.

[1] LIVY, I, 8, 3; MACROB., *Sat.*, I, 6, 7; DIOD. SIC., V, 40, 1; SIL. ITAL., VIII, 486; FLOR., I, 5; DION. HAL., III, 61, 1.

[2] HELBIG, *Führer*[3], I, No. 976.

[3] H. NACHOD, *Der Rennwagen bei den Italikern,* p. 52, No. 39b.

[4] MRS A. W. VAN BUREN, *Architectural Ornamentation in Rome from the Sixth to the Fourth Century B. C., J. R. S.*, IV, 1914, p. 188.

[5] The heavy lumbering two-wheeled transportation vehicles that one sees to-day in the Campagna near Rome give the impression of carts, *carpenta* in fact, while many of the conveyances used in the neighborhood of Perugia, for example, both for transportation and for driving, have lighter wheels and lighter construction in general and consequently smoother action. It requires no great strain of the imagination to see in the latter the same pedigree as that enjoyed by the comparatively short-lived chariot.

[6] FLORUS, I, 5, 6.

of such a tradition to be found elsewhere, though Dionysius (II, 37, 2) describes Lucumo as ἀνὴρ ὀραστήριος καὶ τὰ πολέμια διαφανής. The statement of the poet is embedded in a description so obviously legendary that the details warrant but little consideration, yet since Propertius was well versed in matters Umbrian and Etruscan, we shall consider his suggestion of Etruscan influence on the Roman camp.

There is a growing tendency among scholars to-day to recognize in the sites of the terremare the beginnings of the complex Roman encampment. Before noting points of similarity between the two, I shall quote a description of a terramara habitation (See Pl. 54, Fig. 2).

" The true terremare, though varying in dimensions, are constant in form ", says Peet[1]. " The typical terramara may, therefore, be described as follows. It is a pile-built settlement, trapezoidal in shape, with its east and west sides parallel and running roughly north and south. It is built on dry land, but surrounded by a broad moat filled with running water. On the inner side of this moat is an earthen rampart supported within by a wooden buttress. The settlement is divided into four by a pair of roads crossing at right angles in the centre. In the eastern half lies the *arx* or *area limitata*, a rectangular mound of heaped earth, sometimes divided from the rest of the settlement by a moat ".

The form of the Roman camp was quadrangular, that of the terramara trapezoidal, a shape rendered necessary by the hydraulic consideration of having an acute angle to divide the water for the moat. With the abandonment of the water-filled trench, the need for the peculiar shape disappeared.

The Roman *murus* and *fossa* trace their lineage back to the moat and rampart and " explain themselves as simple survivals, as an attempt to reproduce artificially the natural security afforded by dwelling in the water "[2]. As the terramara people left the marshy plains and retreated up the hillsides, the elevation itself was sufficient protection against floods, but the moat was retained simply because it had become a definite feature of the terramara[3]. It was then transformed into the *fossa*.

The two main streets of the terramara intersecting at right angles left their impress upon the *cardo* and the *decumanus* of the Roman camp, while the further division of such settlements by additional parallel lines made numerous rectangular plots, a situation corresponding exactly to the *insulae* as planned for the Roman camp by the Gromatici.

In the middle of the eastern side of the terramara, there is found an *area limitata*, a construction of wood and earth, a *templum* in the original sense of the word, with hallowed associations. Here one finds the germ of the *forum* and of the *praetorium*, the

[1] *The Stone and Bronze Ages in Italy*, pp. 341-342.
[2] *Op. cit.*, p. 502.
[3] *Op. cit.*, p. 340.

general's quarters. These and other analogies with features in the life of ancient Rome have been summed up by Pigorini[1].

" The spirit of order which evidently animated these settlers, stamps them as the ancestors of the people who were to furnish the models of law and government to succeeding ages "[2].

The similarity between these pre-historic sites and the *castra* is so pronounced that Sergi " declared that the terremare were the remains of Roman camps, mistaken by overzealous excavators for bronze age settlements "[3].

If there is any connection between these two institutions, the question naturally arises, " Who bridged the gulf between them? " We have been so accustomed to regard Etruria as the teacher of Rome in matters pertaining to the foundations of cities, to agrarian land-settlement, and to surveying, that one is tempted to see Etruscan influence in the camp as well. Yet the situation is complex and will probably remain so until several ethnological problems are settled.

Peet believes that the most ancient civilization of the age of bronze that we find in Latium was very probably derived from the terramara, and he states that the culture of Villanova and of Etruria seems likewise, to have its roots among the same people[4]. Mariani holds about the same theory, but it is much more definitely (perhaps more dangerously) formulated[5]. According to him there flowed toward the south two streams of migration from the palefitte and terremare of Northern Italy. One followed the coast and is represented by the civilizations of Villanova and of Etruria. The other current, consisting of Sabellian peoples (Latins, Sabines, Oscans, etc.), worked its way down the center of the peninsula, and being farther removed from commercial routes remained less altered and less developed than the other peoples.

According to this view, the Romans on finding themselves again in contact with their brothers of the North, the Etruscans, would have no need of instruction in laying out a camp, unless, indeed they had lost the art in long generations of rough mountain life.

Archaeology is not, then, in a position to affirm or deny Propertius' hint of Etruscan influence on the Roman camp. Before the question of its origin can be definitely solved, it will be necessary for several scholars, Curtius-like, to devote their lives to closing the abyss that exists in our knowledge of the relationships of several peoples of Central Italy[6].

In the other branch of the service, the navy, the Romans were not under the spell of the Etruscans, since the fleets of their rivals by land had been swept from the seas

[1] *Bull. di Paletnol. Ital.*, XXIX, 1903, 204-206.
[2] H. STUART JONES, *Companion to Roman History*, p. 4.
[3] T. E. PEET, *op. cit.*, p. 339.
[4] T. E. PEET, *Rev. Archéol.*, 4me Série, XVI, 1910, p. 399.
[5] *I resti di Roma primitiva*, *Bull. Com.*, 1896, p. 47.
[6] [The writer was not aware of FROTHINGHAM'S observations in *A.J.A.*, *2 ser.*, XVIII, 1914, p. 318. - ED.]

too early to exercise any influence upon Roman naval development. In 474 B. C. Hiero of Syracuse abruptly terminated the thalassocracy of Etruria. At the inception of the First Punic War, the Romans were not yet masters of the art of ship-building, much less of seamanship, and doubtless had to call allied Greek cities to their aid[1]. Nevertheless, then for the first time, they entertained the idea of disputing with Carthage the supremacy of the sea, which the African city had inherited for generations; yet Carthage ultimately met the same fate by sea as did Etruria by land. Rome gained a lesson from every defeat, and a victory over her recoiled with the sureness of fate upon the victor. *Ea est Romana gens, quae victa quiescere nesciat*[2].

In concluding my lengthy discussion, I would maintain that, whatever were the modifications suggested by encounters with the Sabines, Samnites, Gauls, Iberians and other nations, and however resourceful were the fertile brains of Camillus, Marius and Caesar, one may rest assured that the most important of the many stages of Rome's military evolution was Etruscan[3]. It is not surprising that the similarity, and, in many cases, the identity of customs and institutions gave rise to the story that Rome itself was an Etruscan city (Dion. Hal. I, 29, 2)[4]. Greece was not the only nation that led her captor captive.

[1] See HEITLAND, *The Roman Republic*, I, 204.

[2] LIVY, IX, 3, 12.

[3] During the course of this paper the primary source of some of the elements in the Roman organization has been noted. The Etruscans were as great borrowers as were the Romans. I shall add a summary of Etruscan indebtedness to other peoples, in spite of the danger of so doing in limits which do not permit discussion.

If the Etruscans were familiar with a system of castrametation modelled on that of the terramara, the knowledge was in all probability inherited, as we have seen. The *pilleus*-type of helmet with the apex is likewise very old, and Körte (PAULY-WISSOWA, *s. v.*, *Etrusker*, pp. 746-747) holds that the Tyrrheni brought it with them.

If we may trust Helbig, the Mycenaeans exercised a marked influence upon Italy. In his investigation, *Sur les Attributs des Saliens*, p. 235, he writes: " We possess an entire series of facts attesting that during the period preceding the foundation of the first Greek colonies in the occidental countries, the peoples of Central Italy were undergoing the influence of the Mycenaean civilization ".

In the same work Helbig holds that that the short sword with triangular blade, like those found at Corneto, is Mycenaean; that the long slim blade discovered near the Tiber (See p. 141) must be associated with the long swords of the zenith of Mycenaean civilization; he thinks it probable that the war-car was introduced among the Italic peoples by Mycenaeans, whose leaders likewise took the field as παραβάται; he refers to the same source the helmet mentioned above, as well as the high-ridged helmet; nor does it appear to him too hazardous to place the Salian μίτραι in relationship with those of the Mycenaean warrior. In another work, *Zur Geschichte der Hasta Donatica*, p. 23, he attributes to the same civilization the introduction of the bronze spear-point in Italy.

It must be stated, however, that Körte (*loc. cit.*) is skeptical of Mycenaean influence in Italy, and rejects Helbig's conclusions with regard to the sword as well as the helmet.

One is on surer ground in discussing Greek influence. Among the Greek elements is the defensive equipment, consisting of the Argive shield and the pieces of armor, the helmet with the great nodding crest, the cuirass (See Pl. 52, Fig. 4) and the greaves. The Spartan phalanx worked its way up from Magna Graecia, as did the institution of organized cavalry. The latest lengthy discussion of the chariot is the dissertation of H. NACHOD, *Der Rennwagen bei den Italikern*. Unlike Helbig, he holds that the oldest Italic type is closely related to Greek chariots of the 'geometric period'. All the other forms are likewise dependent upon Greek models, whether of the mainland or Ionic. The idea of standards is probably Asiatic, although the eagle ensign seems to have come indirectly from Greece.

Almost the only element that ancient writers and modern scholarship have spared to the Etruscans is the trumpet. All agree in ascribing to them the credit of having invented it.

[4] " So steigt in uns allmählich das klare Bewusstsein auf von dem, was die Römer selbst nicht genau gewusst

The results of this investigation are, apparently, disparaging to the originality of the Romans, yet no nation of antiquity ever made better use of its powers of observation and discrimination, nor was any more open-minded in seeking and admitting elements of superiority in other peoples. " Whatever seemed suitable anywhere among friends or foes, with the utmost zeal they imitated at home " (Sallust, *Cat.*, 51). Even though the Romans did not make any sudden radical departure from traditional equipment and tactics, they showed themselves past-masters of the art of war by rendering perfect and effective the borrowed devices upon which other nations had exhausted their resorcefulness. Their particular forte was not so much creating as re-creating.

The vast fabric of Rome's colossal civilization was cut on a foreign pattern, yet judgment was always exercised in the selection of the cloth. In the words of Polybius (VI, 25, 11), " Whatever they saw, they lost no time in imitating; for if any nation is adept at transferring customs and imitating what is better, it is the Romans ".

haben, dass dieses Volk die Amme der kleinen Göttin Roma gewesen ist, dass gerade durch diesen Ammendienst die Etrusker irhen Zweck in der Geschichte erfüllt haben, und endlich, und vielleicht am wichtigsten von allem, dass diese kleine Göttin selbst in ihrer Kindheit diese Einflüsse zu beherrschen verstand und sie in den Dienst der ewigen Stadt zu setzen ". J. B. CARTER, *Röm. Mitth.*, XXV, 1910, p. 88.

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